SERVICE MANUAL

E5120Q/E5120Q-C, E5125/E5125-C, E5128Q, E5128Q-C

notebook



Notebook Computer

E5120Q/E5120Q-C/E5125/E5125-C/E5128Q/E5128Q-C

Service Manual

Notice

Version 1.0
November 2010

Trademarks

About this Manual

This manual is intended for service personnel who have completed sufficient training to undertake the maintenance and inspection of personal computers.

It is organized to allow you to look up basic information for servicing and/or upgrading components of the ***E5120Q/ E5120Q-C/E5125/E5125-C/E5128Q/E5128Q-C*** series notebook PC.

The following information is included:

Chapter 1, Introduction, provides general information about the location of system elements and their specifications.
Chapter 2, Disassembly, provides step-by-step instructions for disassembling parts and subsystems and how to upgrade elements of the system.

Appendix A, Part Lists
Appendix B, Schematic Diagrams
Appendix C, Updating the FLASH ROM BIOS

IMPORTANT SAFETY INSTRUCTIONS

Follow basic safety precautions, including those listed below, to reduce the risk of fire, electric shock and injury to persons when using any electrical equipment:

1. Do not use this product near water, for example near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
2. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electrical shock from lightning.
3. Do not use the telephone to report a gas leak in the vicinity of the leak.
4. Use only the power cord and batteries indicated in this manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.
5. This product is intended to be supplied by a Listed Power Unit with an AC Input of 100 - 240V, 50 - 60Hz, DC Output of 19V, 3.42A or 18.5V, 3.5A (**65**W) minimum AC/DC Adapter.

CAUTION

This Computer’s Optical Device is a Laser Class 1 Product

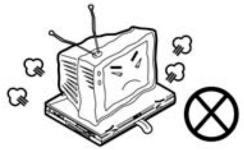
FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
This device may not cause harmful interference.
This device must accept any interference received, including interference that may cause undesired operation.

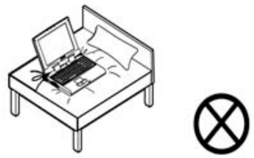
Instructions for Care and Operation

The notebook computer is quite rugged, but it can be damaged. To prevent this, follow these suggestions:

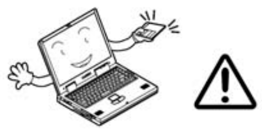
1. **Don't drop it, or expose it to shock.** If the computer falls, the case and the components could be damaged.

Do not expose the computer to any shock or vibration. 	*Do not place it on an unstable surface.* 	*Do not place anything heavy on the computer.* 

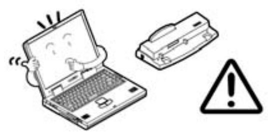
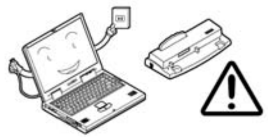
2. **Keep it dry, and don't overheat it.** Keep the computer and power supply away from any kind of heating element. This is an electrical appliance. If water or any other liquid gets into it, the computer could be badly damaged.

Do not expose it to excessive heat or direct sunlight. 	*Do not leave it in a place where foreign matter or moisture may affect the system.* 	*Don't use or store the computer in a humid environment.* 	*Do not place the computer on any surface which will block the vents.* 

3. **Follow the proper working procedures for the computer**. Shut the computer down properly and don't forget to save your work. Remember to periodically save your data as data may be lost if the battery is depleted.

Do not turn off the power until you properly shut down all programs. 	*Do not turn off any peripheral devices when the computer is on.* 	*Do not disassemble the computer by yourself.* 	*Perform routine maintenance on your computer.* 

4. **Avoid interference.** Keep the computer away from high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage your data.
5. **Take care when using peripheral devices**.

Use only approved brands of peripherals. 	*Unplug the power cord before attaching peripheral devices.* 

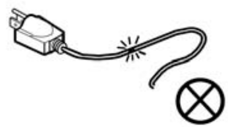
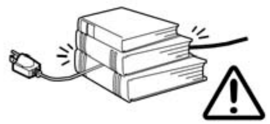
Power Safety Warning

Before you undertake any upgrade procedures, make sure that you have turned off the power, and disconnected all peripherals and cables (including telephone lines). It is advisable to also remove your battery in order to prevent accidentally turning the machine on.

Power Safety

The computer has specific power requirements:

- Only use a power adapter approved for use with this computer.
- Your AC adapter may be designed for international travel but it still requires a steady, uninterrupted power supply. If you are unsure of your local power specifications, consult your service representative or local power company.
- The power adapter may have either a 2-prong or a 3-prong grounded plug. The third prong is an important safety feature; do not defeat its purpose. If you do not have access to a compatible outlet, have a qualified electrician install one.
- When you want to unplug the power cord, be sure to disconnect it by the plug head, not by its wire.
- Make sure the socket and any extension cord(s) you use can support the total current load of all the connected devices.
- Before cleaning the computer, make sure it is disconnected from any external power supplies.

Do not plug in the power cord if you are wet. 	*Do not use the power cord if it is broken.* 	*Do not place heavy objects on the power cord.* 

Battery Precautions

- Only use batteries designed for this computer. The wrong battery type may explode, leak or damage the computer.
- Do not continue to use a battery that has been dropped, or that appears damaged (e.g. bent or twisted) in any way. Even if the computer continues to work with a damaged battery in place, it may cause circuit damage, which may possibly result in fire.
- Recharge the batteries using the notebook's system. Incorrect recharging may make the battery explode.
- Do not try to repair a battery pack. Refer any battery pack repair or replacement to your service representative or qualified service personnel.
- Keep children away from, and promptly dispose of a damaged battery. Always dispose of batteries carefully. Batteries may explode or leak if exposed to fire, or improperly handled or discarded.
- Keep the battery away from metal appliances.
- Affix tape to the battery contacts before disposing of the battery.
- Do not touch the battery contacts with your hands or metal objects.

Battery Guidelines

The following can also apply to any backup batteries you may have.

- If you do not use the battery for an extended period, then remove the battery from the computer for storage.
- Before removing the battery for storage charge it to 60% - 70%.
- Check stored batteries at least every 3 months and charge them to 60% - 70%.

Battery Disposal

The product that you have purchased contains a rechargeable battery. The battery is recyclable. At the end of its useful life, under various state and local laws, it may be illegal to dispose of this battery into the municipal waste stream. Check with your local solid waste officials for details in your area for recycling options or proper disposal.

Caution

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used battery according to the manufacturer's instructions.

Battery Level

Click the battery icon in the taskbar to see the current battery level and charge status. A battery that drops below a level of 10% will not allow the computer to boot up. Make sure that any battery that drops below 10% is recharged within one week.

Related Documents

You may also need to consult the following manual for additional information:

User's Manual on CD/DVD
This describes the notebook PC's features and the procedures for operating the computer and its ROM-based setup program. It also describes the installation and operation of the utility programs provided with the notebook PC.

System Startup

1. Remove all packing materials.
2. Place the computer on a stable surface.
3. Insert the battery and make sure it is locked in position.
4. Securely attach any peripherals you want to use with the computer (e.g. keyboard and mouse) to their ports.
5. Attach the AC/DC adapter to the DC-In jack on the left of the computer, then plug the AC power cord into an outlet, and connect the AC power cord to the AC/DC adapter.
6. Use one hand to raise the lid/LCD to a comfortable viewing angle (do not exceed 135 degrees); use the other hand (as illustrated in ***Figure 1***) to support the base of the computer (**Note**: **Never** lift the computer by the lid/LCD).
7. Press the power button to turn the computer "on".



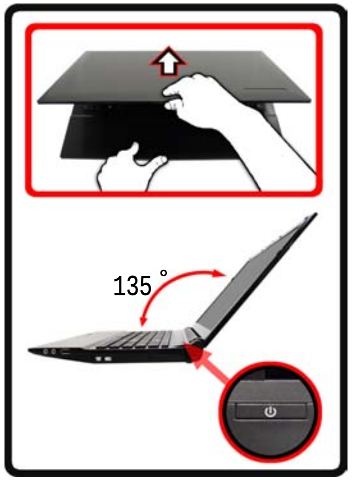


Figure 1
Opening the Lid/LCD/Computer with AC/DC Adapter Plugged-In

Shut Down

Note that you should always shut your computer down by choosing **Shut Down** from the **Start** Menu.

This will help prevent hard disk or system problems.

Contents

Chapter 1: Introduction

Overview

This manual covers the information you need to service or upgrade the ***E5120Q/E5120Q-C/E5125/E5125-C/E5128Q/E5128Q-C*** series notebook computer. Information about operating the computer (e.g. getting started, and the *Setup* utility) is in the *User's Manual*. Information about dri-vers (e.g. VGA & audio) is also found in the *User's Manual*. The manual is shipped with the computer.

Operating systems (e.g. *Windows Vista/ Window 7*, etc.) have their own manuals as do application softwares (e.g. word processing and database programs). If you have questions about those programs, you should consult those manuals.

The ***E5120Q/E5120Q-C/E5125/E5125-C/E5128Q/E5128Q-C*** series notebook is designed to be upgradeable. See ***Disassembly on page 2 - 1*** for a detailed description of the upgrade procedures for each specific component. Please take note of the warning and safety information indicated by the “ ” symbol.

The balance of this chapter reviews the computer's technical specifications and features.

Specifications

Latest Specification Information

The specifications listed here are correct at the time of sending them to the press. Certain items (particularly processor types/speeds) may be changed, delayed or updated due to the manufacturer's release schedule. Check with your service center for more details.

CPU

The CPU is not a user serviceable part. Accessing the CPU in any way may violate your warranty.

Processor Options

Intel® Core™ i7 Processor

i7-640M (2.80GHz), i7-620M (2.66GHz)

4MB L3 Cache & 1066MHz FSB

Intel® Core™ i5 Processor

i5-540M (2.53GHz), i5-520M (2.4GHz), i5-450M (2.4GHz), i5-430M (2.26GHz)

3MB L3 Cache & 1066MHz FSB

Intel® Core™ i3 Processor

i3-370M (2.4GHz), i3-350M (2.26GHz), i3-330M (2.13GHz)

3MB L3 Cache & 1066MHz FSB

Intel® Pentium® Processor

P6000 (1.86GHz)

3MB L3 Cache & 1066MHz FSB

Intel® Celeron® Processor

P4500 (1.86GHz)

2MB L3 Cache & 1066MHz FSB

LCD

15.6" (39.62) HD TFT LCD

Memory

Two 204 Pin SO-DIMM Sockets Supporting **DDR3** 1066/1333 MHz Memory

Memory Expandable up to 8GB

Core Logic

Intel ® HM55 Chipset

Video Adapter

Intel ® HM55 Integrated Video

Shared Memory Architecture of up to **1748MB**

MS DirectX® 10 compatible

BIOS

One 32Mb SPI Flash ROM

Phoenix™ BIOS

Storage

(**Factory Option**) One Changeable 12.7mm(h) Super Multi Optical Device Drive

One Changeable 2.5" 9.5 mm (h) SATA HDD

Audio

High Definition Audio Compliant Interface

2 * Built-In Speakers

Built-In Microphone

Keyboard

Full-size “WinKey” keyboard (with numeric keypad)

Pointing Device

Built-in Touchpad

Security

Security (Kensington® Type) Lock Slot

BIOS Password

Interface

Three USB 2.0 Ports

One HDMI-Out Port

One Headphone-Out Jack

One Microphone-In Jack

One RJ-45 LAN Jack

One DC-in Jack

One External Monitor Port

Card Reader

Embedded Multi-In-1 Card Reader

- MMC (MultiMedia Card) / RS MMC
- SD (Secure Digital) / Mini SD / SDHC/ SDXC Compatible
- MS (Memory Stick) / MS Pro / MS Duo

Communication

Built-In Gigabit Ethernet LAN

(**Factory Option**) 300K/ 1.3M Pixel USB PC Camera Module

(**Factory Option**) Bluetooth 2.1 + EDR Module

(**Factory Option**) 3.75G/HSPA Half Mini-Card Module

(**Factory Option**) Combo WLAN (**802.11b/g/n**) and Bluetooth **3.0** Module

(**Factory Option**) Intel® WiFi Link 1000 (802.11b/g/n) Wireless LAN Half Mini-Card Module

(**Factory Option**) Third-Party 802.11b/g/n Wireless LAN Half Mini-Card Module

Power

6 Cell Smart Lithium-Ion Battery Pack, 48.84WH

(**Factory Option**) 6 Cell Smart Lithium-Ion Battery Pack, 62.16WH

(**Factory Option**) 4 Cell Smart Lithium-Ion Battery Pack, 32.56WH

Full Range AC/DC Adapter

AC Input: 100 - 240V, 50 - 60Hz

DC Output: 19V, 3.42A or 18.5V, 3.5A (**65W**)

Energy Star 5.0 Compliant

Environmental Spec

Temperature

Operating: 5°C - 35°C

Non-Operating: -20°C - 60°C

Relative Humidity

Operating: 20% - 80%

Non-Operating: 10% - 90%

Dimensions & Weight

374mm (w) * 250mm (d) * 14.3 - 34.1mm (h)

2.3 kg (with 48.84WH Battery and ODD)

External Locator - Top View with LCD Panel Open

Figure 1
Top View

1. PC Camera (**Optional**)
2. LCD
3. Power Button
4. LED Status Indicators
5. Keyboard
6. Built-In Microphone
7. Touchpad & Buttons



External Locator - Front & Right Side Views

Figure 2
Front View

1. LED Indicators

FRONT VIEW



Figure 3
Right Side View

1. Microphone-In Jack
2. Headphone-Out Jack
3. USB 2.0 Port
4. Optical Device Drive Bay
5. Emergency Eject Hole

RIGHT SIDE VIEW



External Locator - Left Side & Rear View

Figure 4
Left Side View

1. DC-In Jack
2. External Monitor Port
3. RJ-45 LAN Jack
4. HDMI-Out Port
5. 2 * USB 2.0 Ports
6. Vent
7. Multi-in-1 Card Reader

LEFT SIDE VIEW



Figure 5
Rear View

1. Security Lock Slot
2. Battery

REAR VIEW



External Locator - Bottom View

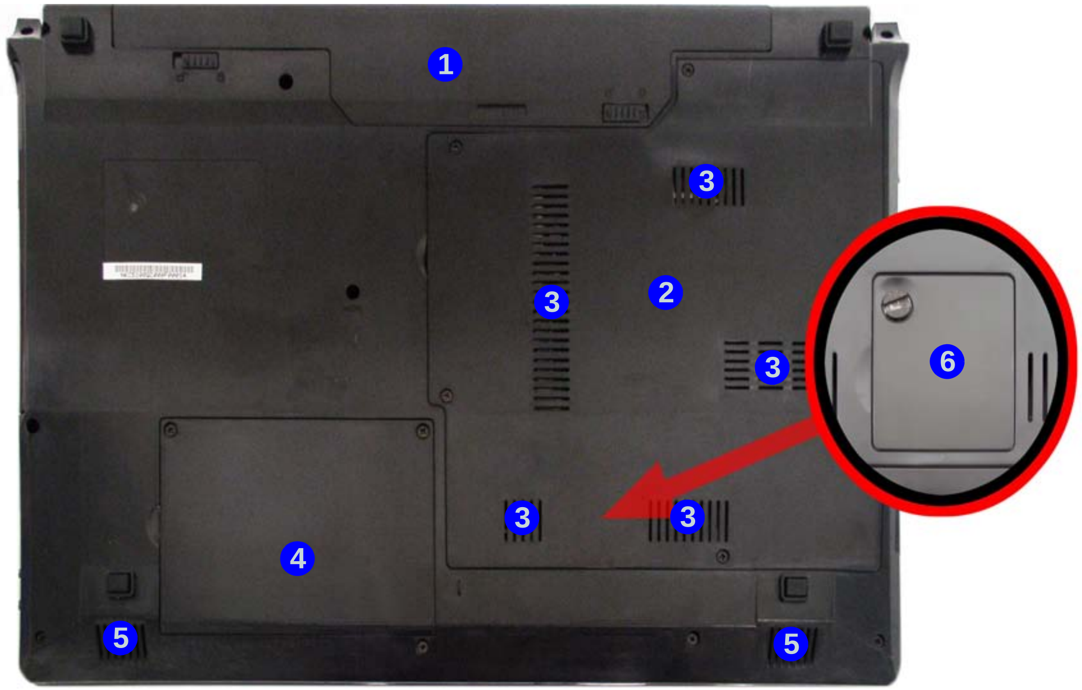


Figure 6
Bottom View

1. Battery
2. Component Bay Cover
3. Vent
4. Hard Disk Bay Cover
5. Speakers
6. USIM Card Cover

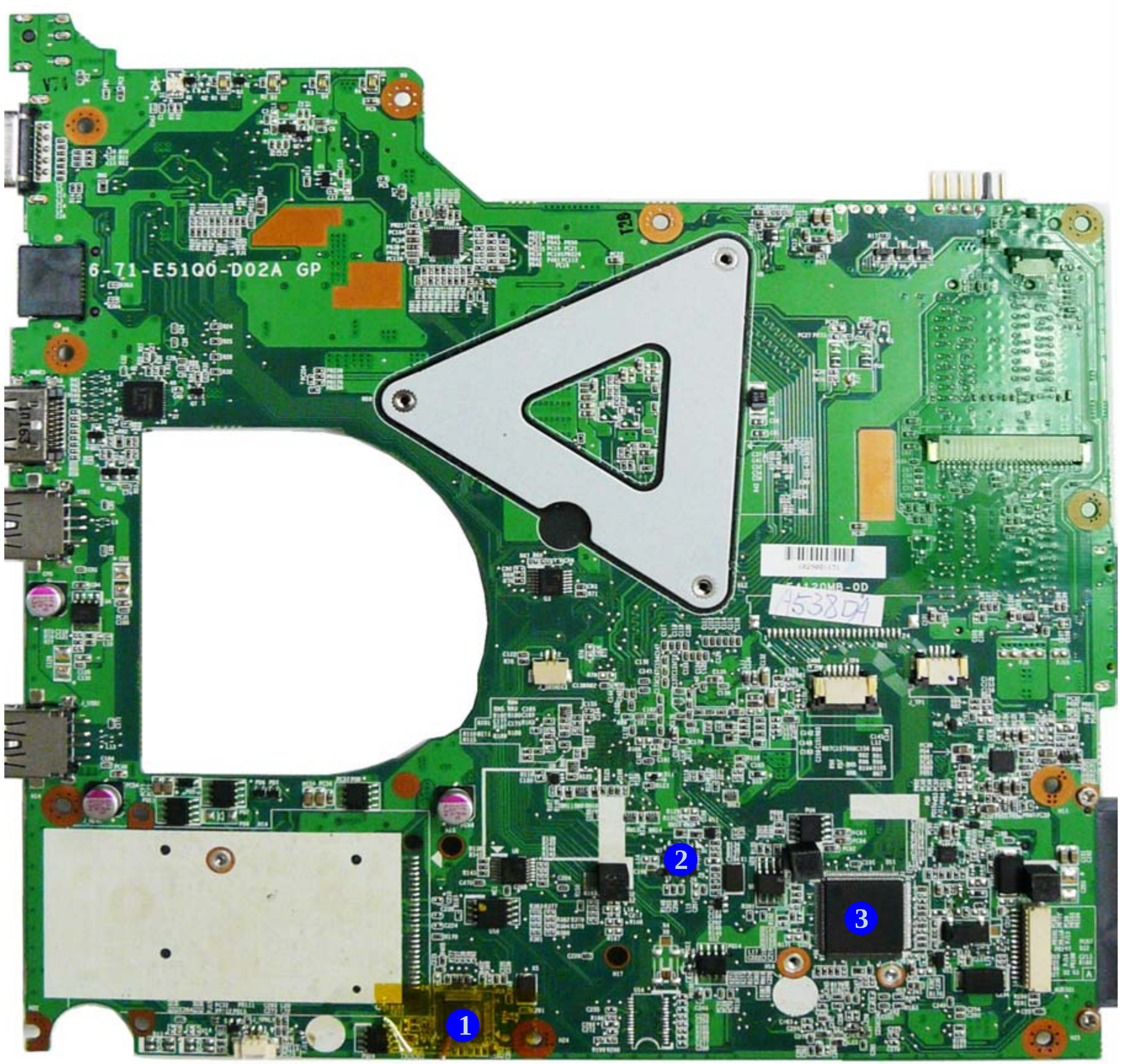
Overheating

To prevent your computer from overheating, make sure nothing blocks any vent while the computer is in use.

Mainboard Overview - Top (Key Parts)

Figure 7
Mainboard Top Key Parts

1. JMC251C
2. Clock Generator
3. KBC-ITE IT8502E



Mainboard Overview - Bottom (Key Parts)

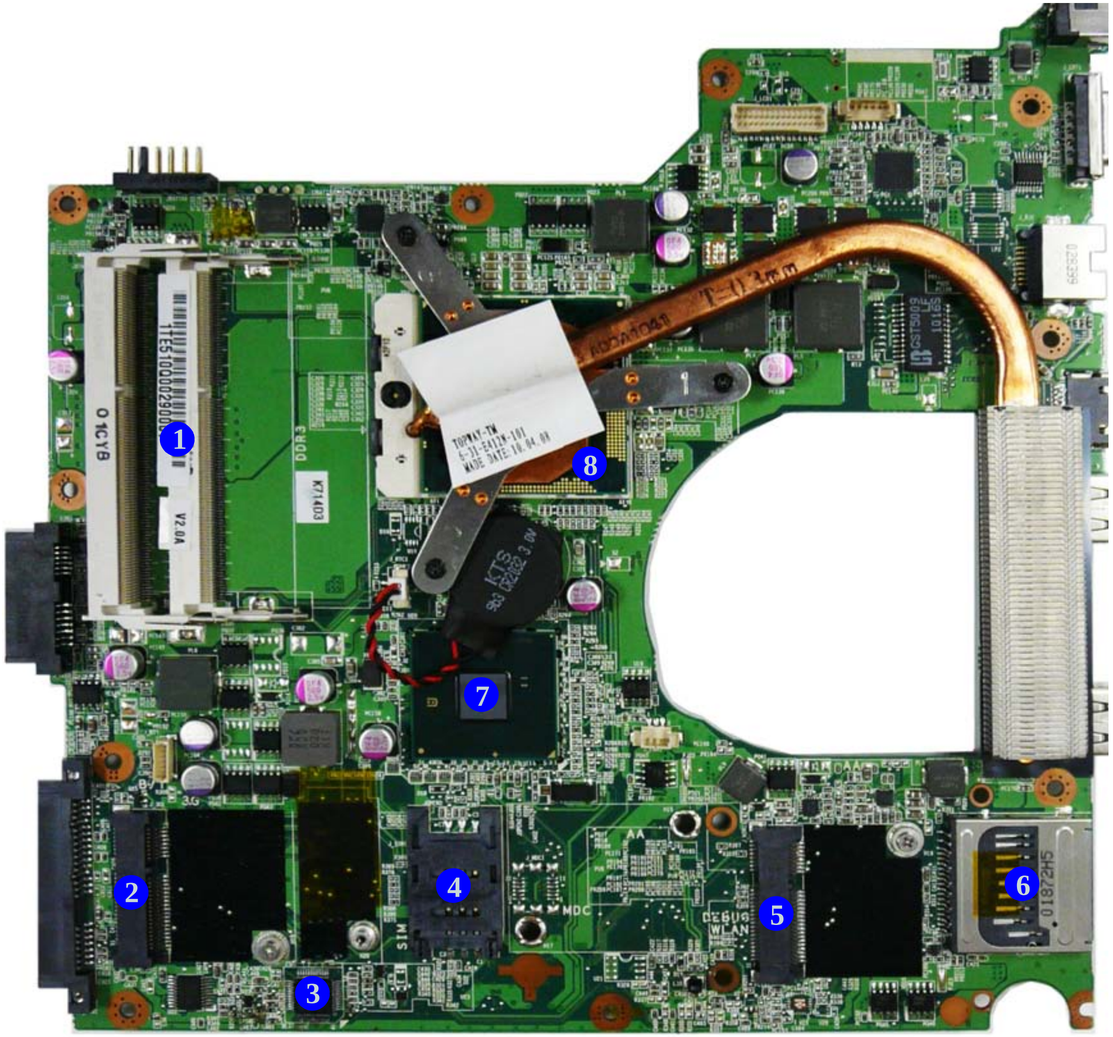


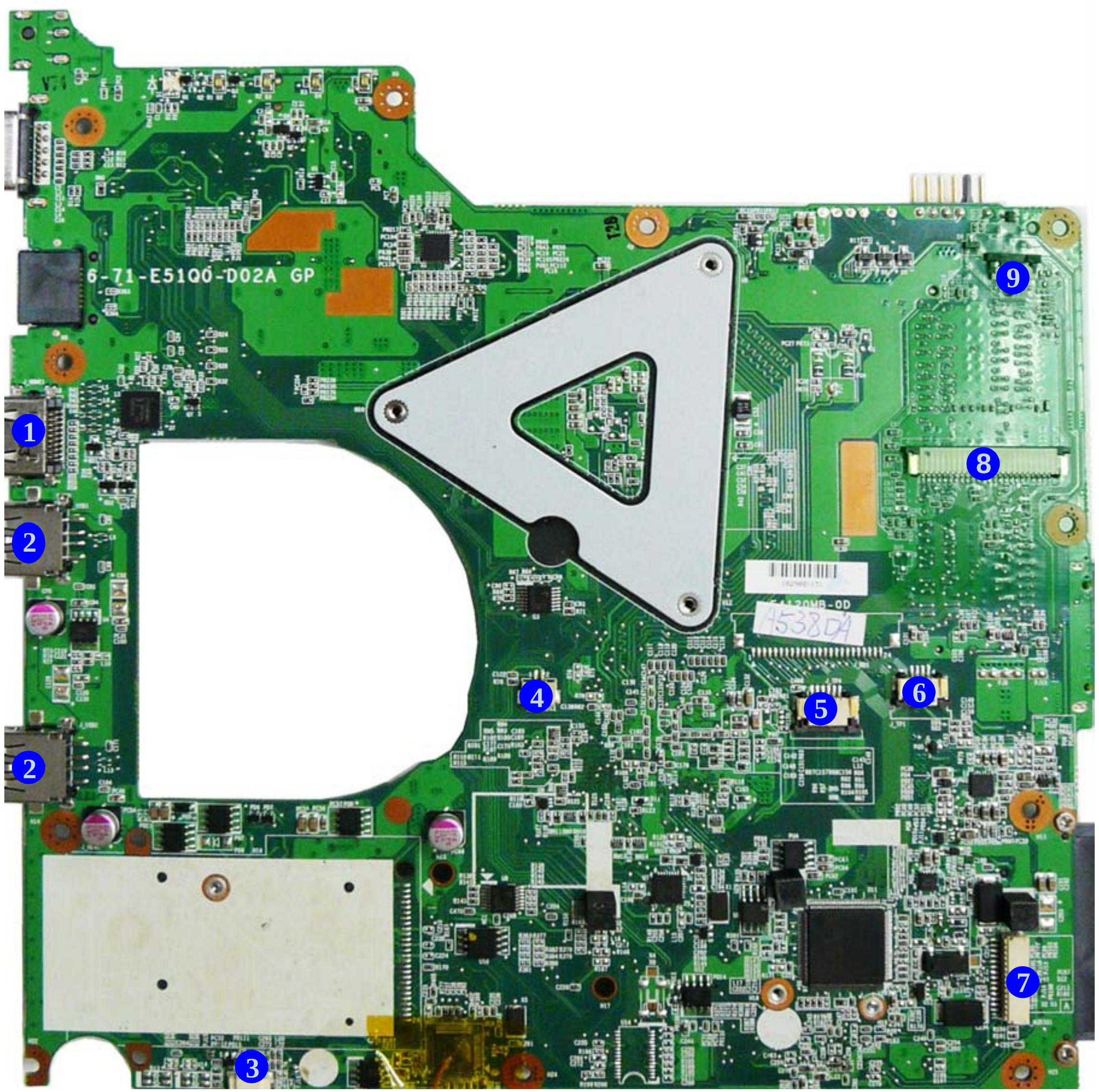
Figure 8
Mainboard Bottom Key Parts

1. Memory Slots DDR3 SO-DIMM
2. Mini-Card Connector (3.5G Module)
3. Audio Codec
4. USIM Card
5. Mini-Card Connector (WLAN Module)
6. Multi-in-1 Card Reader
7. Platform Controller Hub
8. CPU Socket (CPU installed)

Mainboard Overview - Top (Connectors)

Figure 9
Mainboard Top Connectors

1. HDMI-Out Port
2. USB Ports
3. Speaker Cable Connector
4. Microphone Cable Connector
5. TouchPad Cable Connector
6. Click Board Connector
7. Audio Board Connector
8. Keyboard Cable Connector
9. Switch Board Cable Connector



Mainboard Overview - Bottom (Connectors)

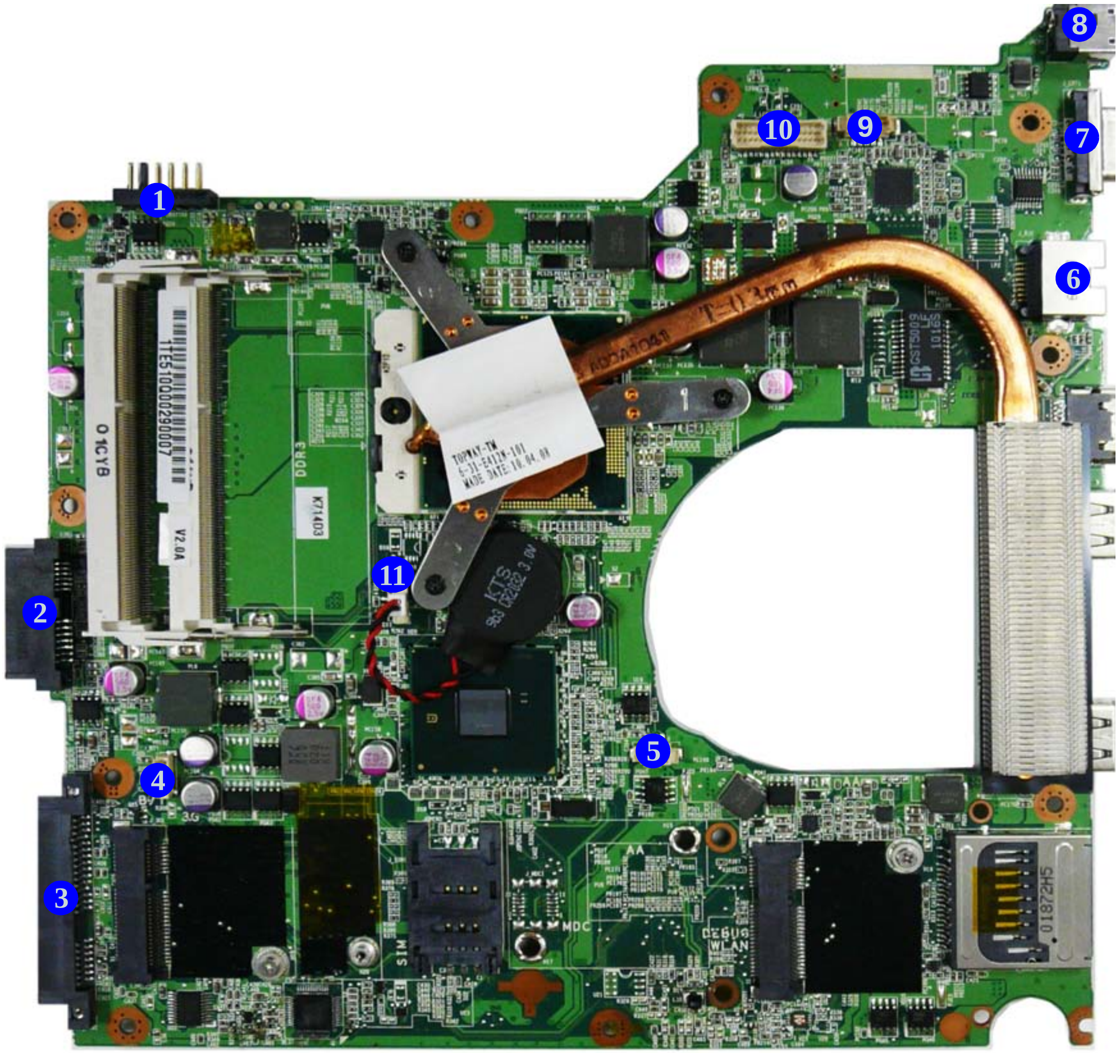


Figure 10
Mainboard Bottom Connectors

1. Battery Connector
2. ODD Connector
3. HDD Connector
4. Bluetooth Cable Connector
5. CPU Fan Cable Connector
6. RJ-45 LAN Jack
7. External Monitor Port
8. DC-In Jack
9. CCD Cable Connector
10. LCD Cable Connector
11. CMOS Battery Connector

Chapter 2: Disassembly

Overview

This chapter provides step-by-step instructions for disassembling the ***E5120Q/E5120Q-C/E5125/E5125-C/E5128Q/E5128Q-C*** series notebook's parts and subsystems. When it comes to reassembly, reverse the procedures (unless otherwise indicated).

We suggest you completely review any procedure before you take the computer apart.

Procedures such as upgrading/replacing the RAM, optical device and hard disk are included in the User's Manual but are repeated here for your convenience.

To make the disassembly process easier each section may have a box in the page margin. Information contained under the figure # will give a synopsis of the sequence of procedures involved in the disassembly procedure. A box with a lists the relevant parts you will have after the disassembly process is complete. **Note**: The parts listed will be for the disassembly procedure listed ONLY, and not any previous disassembly step(s) required. Refer to the part list for the previous disassembly procedure. The amount of screws you should be left with will be listed here also.

A box with a will also provide any possible helpful information. A box with a contains warnings.

An example of these types of boxes are shown in the sidebar.

Information

Warning

NOTE: All disassembly procedures assume that the system is turned **OFF**, and disconnected from any power supply (the battery is removed too).

Maintenance Tools

The following tools are recommended when working on the notebook PC:

- M3 Philips-head screwdriver
- M2.5 Philips-head screwdriver (magnetized)
- M2 Philips-head screwdriver
- Small flat-head screwdriver
- Pair of needle-nose pliers
- Anti-static wrist-strap

Connections

Connections within the computer are one of four types:

Locking collar sockets for ribbon connectors	To release these connectors, use a small flat-head screwdriver to gently pry the locking collar away from its base. When replacing the connection, make sure the connector is oriented in the same way. The pin1 side is usually not indicated.
Pressure sockets for multi-wire connectors	To release this connector type, grasp it at its head and gently rock it from side to side as you pull it out. Do not pull on the wires themselves. When replacing the connection, do not try to force it. The socket only fits one way.
Pressure sockets for ribbon connectors	To release these connectors, use a small pair of needle-nose pliers to gently lift the connector away from its socket. When replacing the connection, make sure the connector is oriented in the same way. The pin1 side is usually not indicated.
Board-to-board or multi-pin sockets	To separate the boards, gently rock them from side to side as you pull them apart. If the connection is very tight, use a small flat-head screwdriver - use just enough force to start.

Maintenance Precautions

The following precautions are a reminder. To avoid personal injury or damage to the computer while performing a removal and/or replacement job, take the following precautions:

1. **Don't drop it**. Perform your repairs and/or upgrades on a stable surface. If the computer falls, the case and other components could be damaged.
2. **Don't overheat it**. Note the proximity of any heating elements. Keep the computer out of direct sunlight.
3. **Avoid interference**. Note the proximity of any high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage components and/or data. You should also monitor the position of magnetized tools (i.e. screwdrivers).
4. **Keep it dry**. This is an electrical appliance. If water or any other liquid gets into it, the computer could be badly damaged.
5. **Be careful with power**. Avoid accidental shocks, discharges or explosions.
   - Before removing or servicing any part from the computer, turn the computer off and detach any power supplies.
   - When you want to unplug the power cord or any cable/wire, be sure to disconnect it by the plug head. Do not pull on the wire.
6. **Peripherals** – Turn off and detach any peripherals.
7. **Beware of static discharge**. ICs, such as the CPU and main support chips, are vulnerable to static electricity. Before handling any part in the computer, discharge any static electricity inside the computer. When handling a printed circuit board, do not use gloves or other materials which allow static electricity buildup. We suggest that you use an anti-static wrist strap instead.
8. **Beware of corrosion**. As you perform your job, avoid touching any connector leads. Even the cleanest hands produce oils which can attract corrosive elements.
9. **Keep your work environment clean**. Tobacco smoke, dust or other air-born particulate matter is often attracted to charged surfaces, reducing performance.
10. **Keep track of the components**. When removing or replacing any part, be careful not to leave small parts, such as screws, loose inside the computer.

Cleaning

Do not apply cleaner directly to the computer, use a soft clean cloth.
Do not use volatile (petroleum distillates) or abrasive cleaners on any part of the computer.

Power Safety Warning

Before you undertake any upgrade procedures, make sure that you have turned off the power, and disconnected all peripherals and cables (including telephone lines). It is advisable to also remove your battery in order to prevent accidentally turning the machine on.

Disassembly Steps

The following table lists the disassembly steps, and on which page to find the related information. **PLEASE PERFORM THE DISASSEMBLY STEPS IN THE ORDER INDICATED.**

To remove the Battery:

1. Remove the battery *page 2 - 5*

To remove the HDD:

1. Remove the battery *page 2 - 5*
2. Remove the HDD *page 2 - 6*

To remove the Optical Device:

1. Remove the battery *page 2 - 5*
2. Remove the Optical device *page 2 - 8*

To remove the System Memory:

1. Remove the battery *page 2 - 5*
2. Remove the system memory *page 2 - 9*

To remove and install a Processor:

1. Remove the battery *page 2 - 5*
2. Remove the processor *page 2 - 11*
3. Install the processor *page 2 - 13*

To remove the 3G Module:

1. Remove the battery *page 2 - 5*
2. Remove the 3G module *page 2 - 14*

To remove the Wireless LAN Module:

1. Remove the battery *page 2 - 5*
2. Remove the WLAN module *page 2 - 15*

To remove the Bluetooth Module:

1. Remove the battery *page 2 - 5*
2. Remove the Bluetooth Module *page 2 - 16*

To remove the Keyboard:

1. Remove the battery *page 2 - 5*
2. Remove the keyboard *page 2 - 17*

Removing the Battery

1. Turn the computer **off**, and turn it over.
2. Slide the latch 1 in the direction of the arrow (***Figure 1a***).
3. Slide the latch 2 in the direction of the arrow, and hold it in place (***Figure 1a***).
4. Slide the battery 3 in the direction of the arrow 4 (***Figure 1b***).

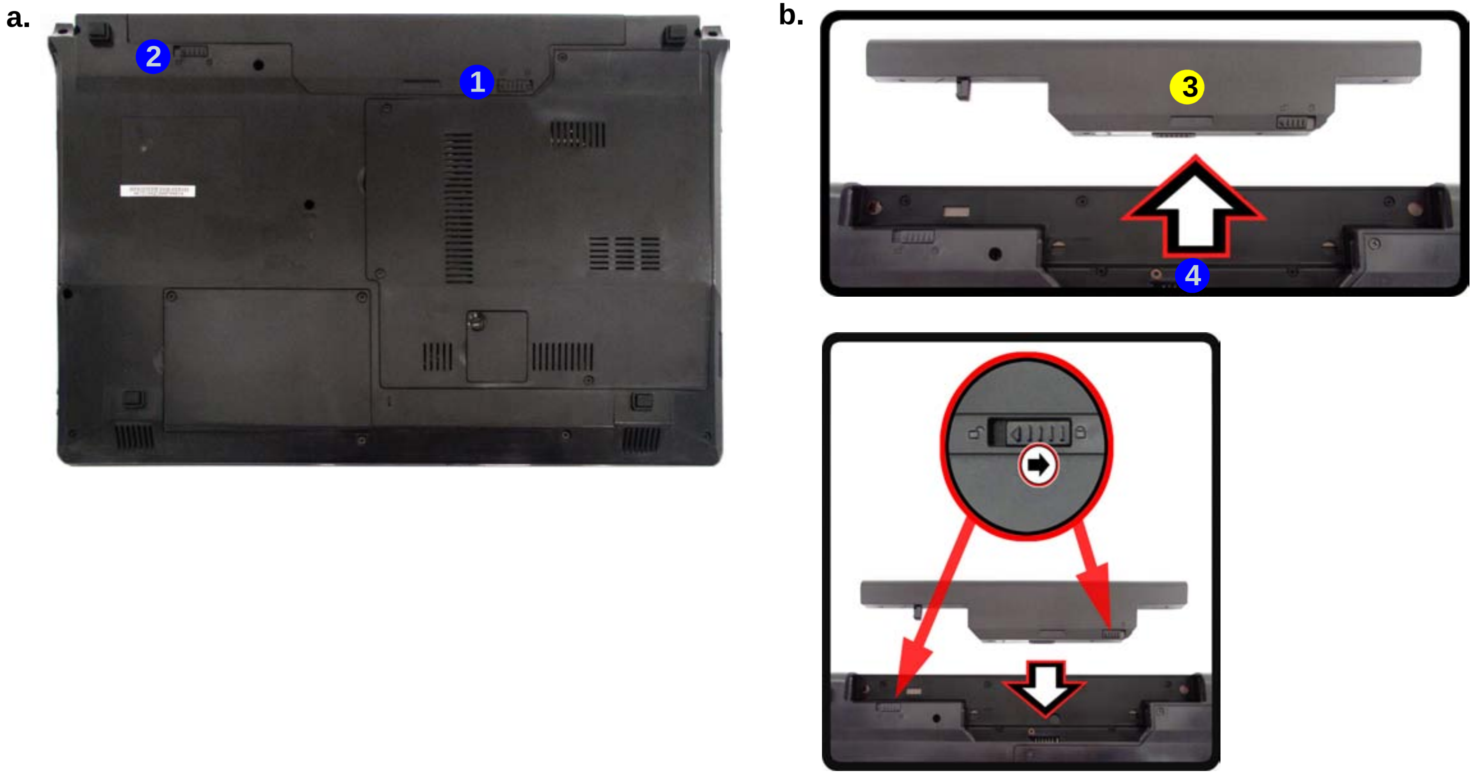


Figure 1
Battery Removal

a. Slide latch at point 1 towards the unlock symbol and hold it in place.
b. Slide the battery in the direction of the arrow.

3. Battery

Removing the Hard Disk Drive

Figure 2
HDD Assembly Removal

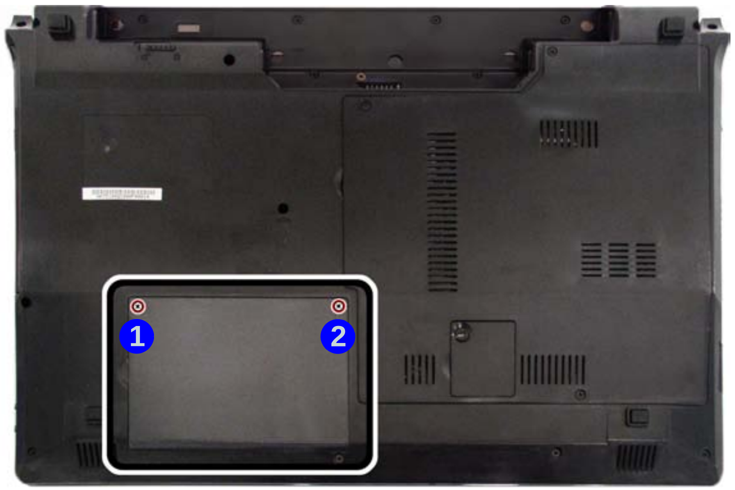
a. Locate the HDD bay cover and remove the screws.

The hard disk drive can be taken out to accommodate other 2.5" serial (SATA) hard disk drives with a height of 9.5mm (h). Follow your operating system’s installation instructions, and install all necessary drivers and utilities (as outlined in **Chapter 4 of the User’s Manual**) when setting up a new hard disk.

Hard Disk Upgrade Process

1. Turn **off** the computer, and remove the battery (*page 2 - 5*).
2. Locate the hard disk bay cover and remove screws 1 & 2 (*Figure 2a*).

a.



HDD System Warning

New HDD’s are blank. Before you begin make sure:

You have backed up any data you want to keep from your old HDD.

You have all the CD-ROMs and FDDs required to install your operating system and programs.

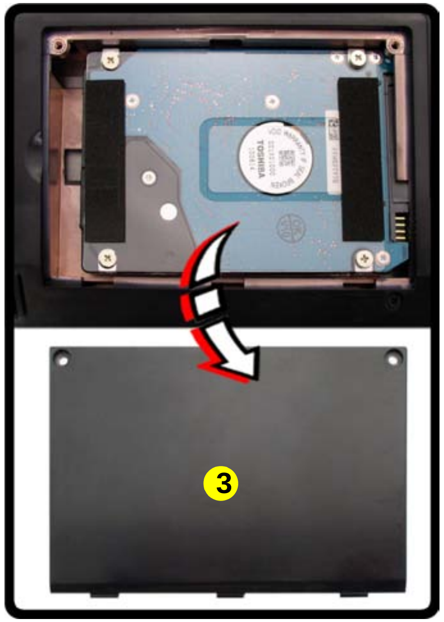
If you have access to the internet, download the latest application and hardware driver updates for the operating system you plan to install. Copy these to a removable medium.

- 2 Screws

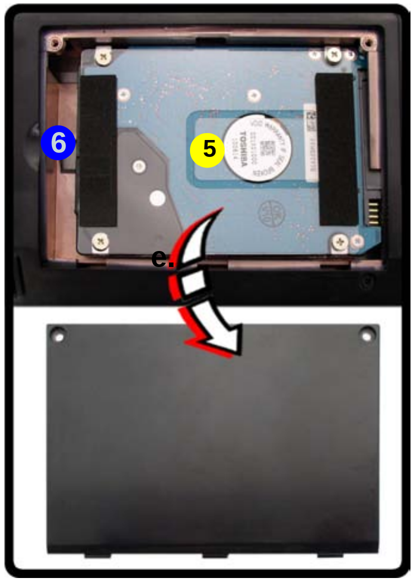
2.Disassembly

3. Remove the hard disk bay cover **3** (***Figure 3b***).
4. Grip the tab and slide the hard disk in the direction of arrow **4** (***Figure 3c***).
5. Lift the hard disk **5** out of the bay **6** (***Figure 3d***).
6. Remove the screw **7** - **10** and the mylar cover **11** from the hard disk **12** (***Figure 3e***).
7. Reverse the process to install a new hard disk (do not forget to replace all the screws and covers).

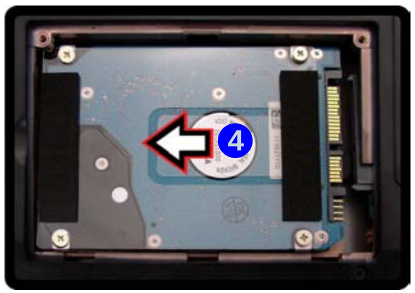
b.



d.



c.



e.

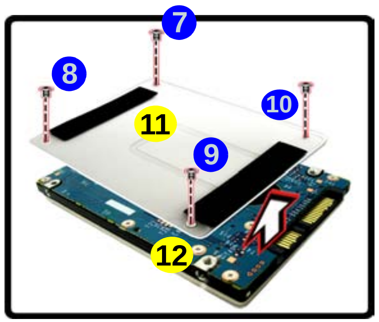


Figure 3
HDD Assembly Removal (cont'd.)

b. Remove the HDD bay cover.
c. Grip the tab and slide the HDD in the direction of the arrow.
d. Lift the HDD assembly out of the bay.
e. Remove the screws and mylar cover.

3. HDD Bay Cover
11. Adhesive Cover
12. HDD

- 4 Screws

Figure 4
Optical Device Removal

a. Remove the screw at point 1.
b. Use a screwdriver to carefully push out the optical device at point 2.

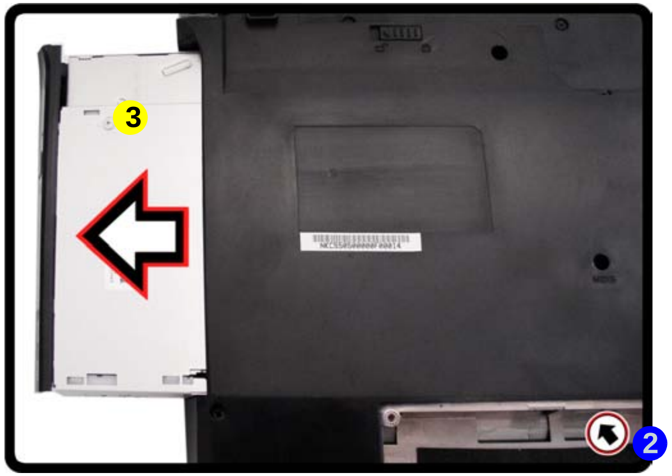
Removing the Optical (CD/DVD) Device

1. Turn **off** the computer, remove the battery (***page 2 - 5***) and hard disk (***page 2 - 6***).
2. Remove the screw at point 1 (***Figure 4a***).
3. Use a screwdriver to carefully push out the optical device 3 at point 2 (***Figure 4b***).
4. Insert the new device and carefully slide it into the computer (the device only fits one way. DO NOT FORCE IT; The screw holes should line up).
5. Restart the computer to allow it to automatically detect the new device.

a.



b.



3. Optical Device

- 1 Screw

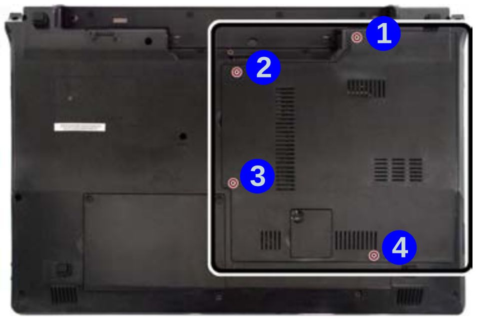
Removing the System Memory (RAM)

The computer has two memory sockets for 200 pin Small Outline Dual In-line Memory Modules (SO-DIMM) supporting DDRIII (DDR3) Up to 1066/1333 MHz. The main memory can be expanded up to 8GB. The SO-DIMM modules supported are 1024MB and 2048MB **DDRIII** Modules. The total memory size is automatically detected by the POST routine once you turn on your computer.

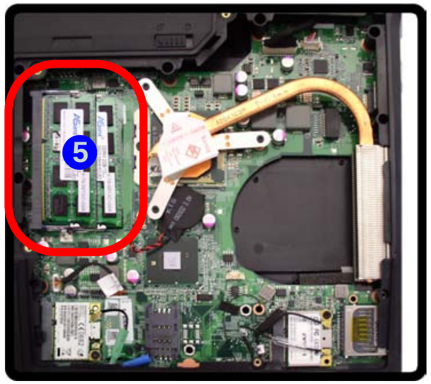
Memory Upgrade Process

1. Turn **off** the computer, turn it over and remove the battery (***page 2 - 5***).
2. Remove screws 1 - 4 from the component bay cover (***Figure 5a***).
3. The RAM modules will be visible at point 5 on the mainboard (***Figure 5b***).
4. Gently pull the two release latches (6 & 7) on the sides of the memory socket in the direction indicated by the arrows (***Figure 5c***). The RAM module 8 will pop-up (***Figure 5d***), and you can then remove it.

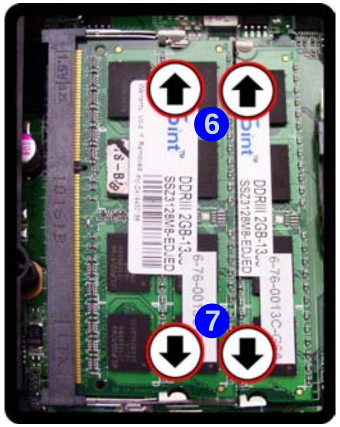
a.



b.



c.



d.



Figure 5
RAM Module Removal

a. Remove the screws from the component bay cover.
b. The RAM modules will be visible at point 5 on the mainboard.
c. Pull the release latches.
d. Remove the module.

Contact Warning

Be careful not to touch the metal pins on the module's connecting edge. Even the cleanest hands have oils which can attract particles, and degrade the module's performance.

8. RAM Module

- 4 Screws

2.Disassembly

5. Pull the latches to release the second module if necessary.
6. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.
7. The module will only fit one way as defined by its pin alignment. Make sure the module is seated as far into the slot as it will go. DO NOT FORCE IT; it should fit without much pressure.
8. Press the module in and down towards the mainboard until the slot levers click into place to secure the module.
9. Replace the component bay cover and the screws (see ***page 2 - 8***).
10. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.

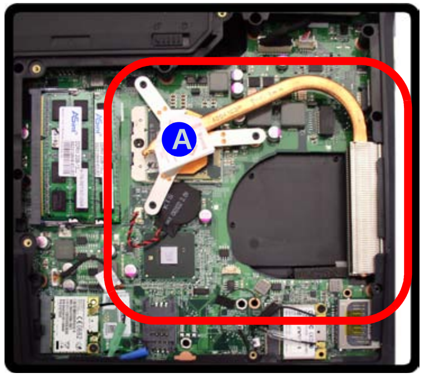
Removing and Installing a Processor

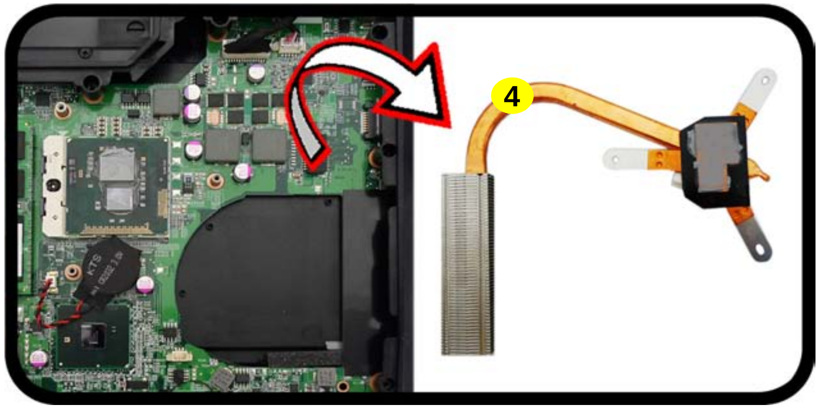
Processor Removal Procedure

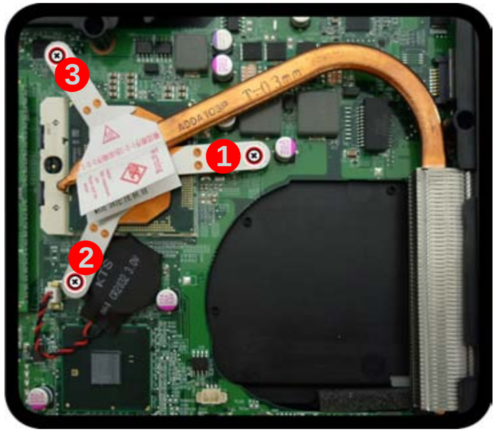
1. Turn **off** the computer, turn it over, and remove the battery (***page 2 - 5***) and the component bay cover (***page 2 - 8***).
2. Locate the heat sink.
3. Loosen the CPU heat sink screws in the order 3, 2 & 1 (the reverse order as indicated on the label ***Figure 6b***).
4. Carefully lift up the heat sink 4 (***Figure 6c***) off the computer.

Figure 6
Processor Removal

a. Locate the heat sink.
b. Remove the screws from the CPU heatsink.
c. Remove the CPU heat sink.

a.


c.


b.


4. Heat Sink

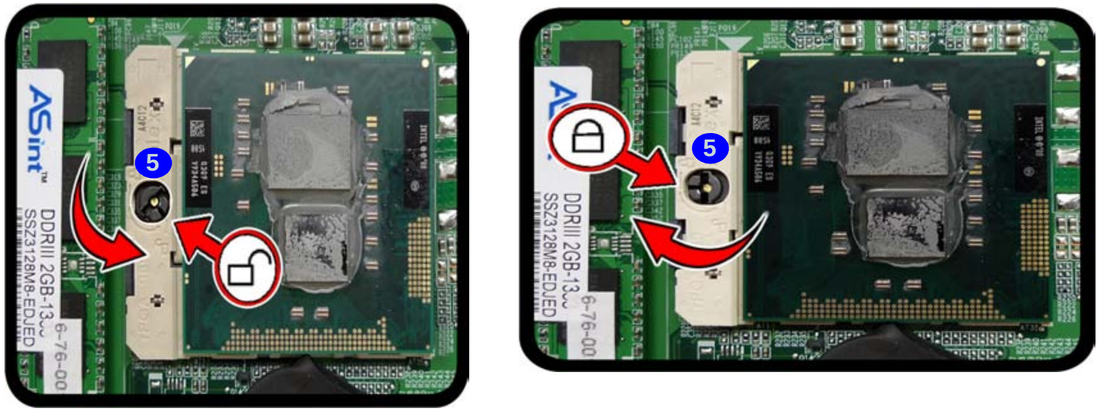
- 3 Screws

Figure 7
Processor Removal (cont'd)

d. Turn the release latch to unlock the CPU.
e. Lift the CPU out of the socket.

5. Turn the release latch **5** towards the unlock symbol to release the CPU (***Figure 7d***).
6. Carefully (it may be hot) lift the CPU **6** up and out of the socket (***Figure 7e***).
7. Reverse the process to install a new CPU.
8. When re-inserting the CPU, pay careful attention to the pin alignment, it will fit only one way (DO NOT FORCE IT!).

d.



Unlock **Lock**

e.



Caution

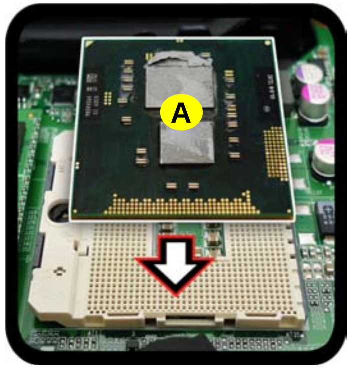
The heat sink, and CPU area in general, contains parts which are subject to high temperatures. Allow the area time to cool before removing these parts.

6. CPU

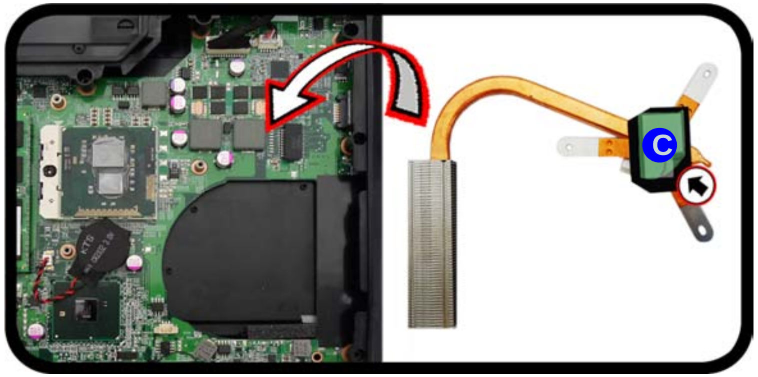
Processor Installation Procedure

1. Insert the CPU **A** (***Figure 8a***), pay careful attention to the pin alignment, it will fit only one way (DO NOT FORCE IT!), and turn the release latch **B** towards the lock symbol (***Figure 8b***).
2. **Remove the sticker C** (***Figure 8c***) from the heat sink.
3. Insert the heat sink **D** as indicated in ***Figure 8d***.
4. Tighten the CPU heat sink screws in the order **1**, **2** & **3** (the order as indicated on the label and ***Figure 8d***).
5. Replace the component bay cover (don't forget to replace the fan cable) and tighten the screws (***page 2 - 9***).

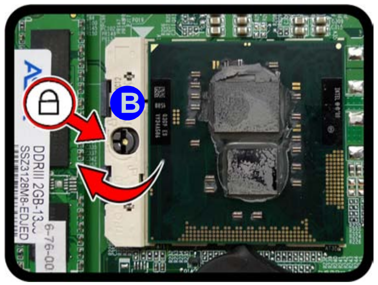
a.



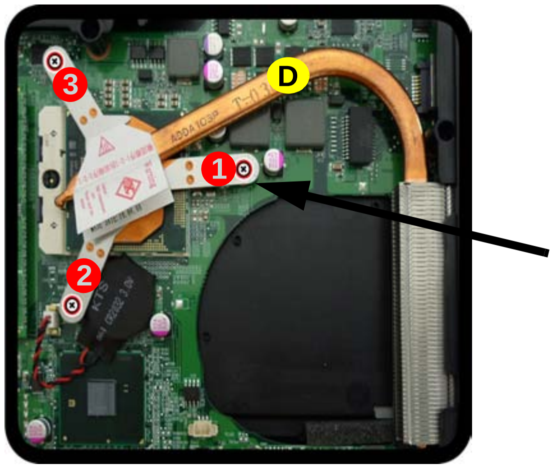
c.



b.



d.



Note:
Tighten the screws in the order as indicated on the label.

Figure 8
Processor Installation

a. Insert the CPU.
b. Turn the release latch towards the lock symbol.
c. Remove the sticker from the heat sink and insert the heat sink.
d. Tighten the screws.

A. CPU
D. Heat Sink

- 3 Screws

Figure 9
3G Module Removal

a. Locate the 3G module.
b. Disconnect the cable and remove the screw.
c. Remove the 3G module.

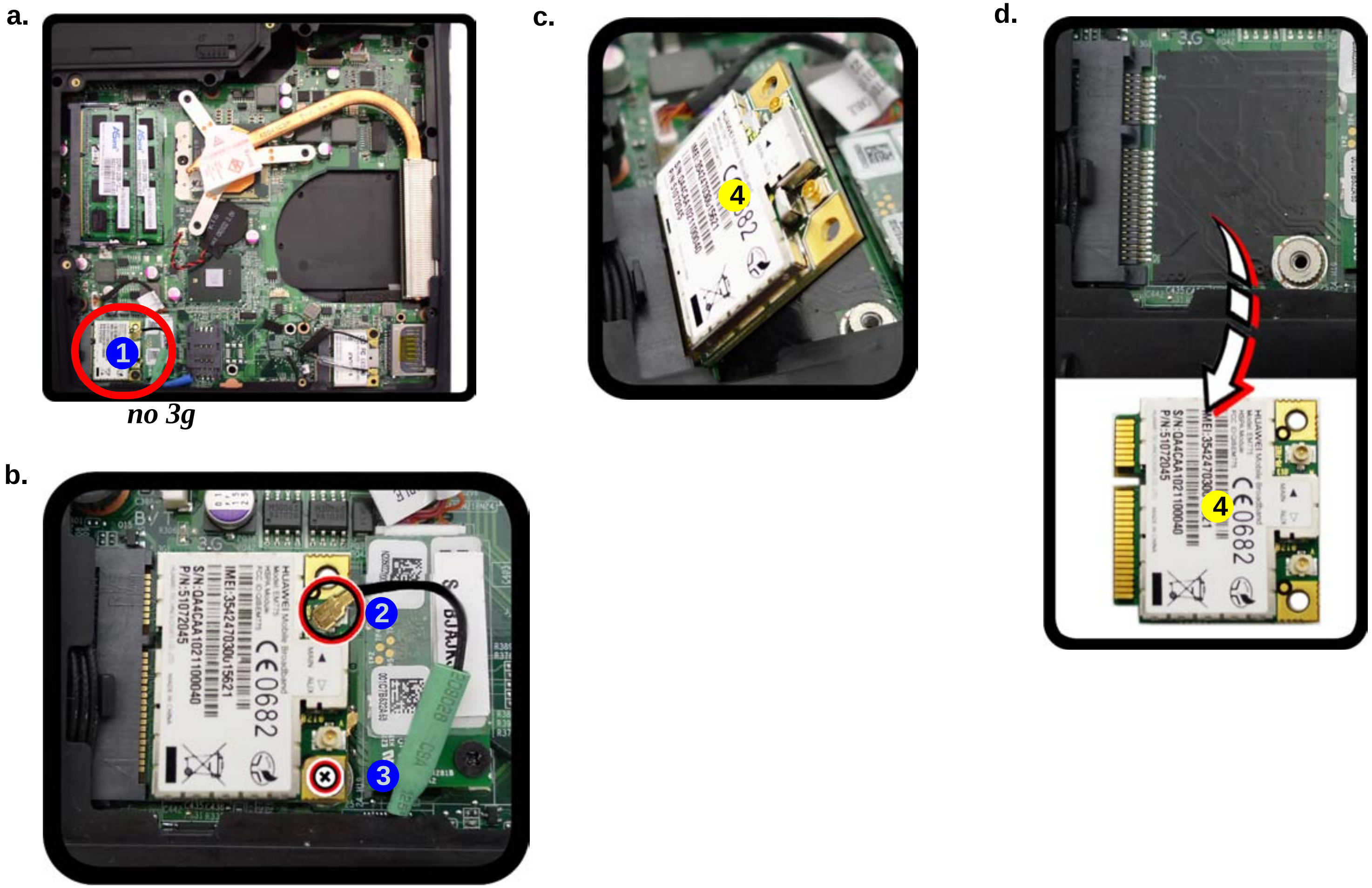
Note: Make sure you reconnect the antenna cable to socket (***Figure 9b***).

4. 3G Module

- 1 Screw

Removing the 3G Module

1. Turn **off** the computer, turn it over, and remove the battery (***page 2 - 5***) and the component bay cover (***page 2 - 9***).
2. The 3G module will be visible at point 1 on the mainboard (***Figure 9a***).
3. Carefully disconnect the cable 2, and then remove the screw 3 (***Figure 9b***).
4. The 3G module 4 (***Figure 9c***) will pop-up, and you can remove it from the computer (***Figure 9d***).



Removing the Wireless LAN Module

1. Turn **off** the computer, turn it over, and remove the battery (***page 2 - 5***) and the component bay cover (***page 2 - 9***).
2. The Wireless LAN module will be visible at point 1 on the mainboard (***Figure 10a***).
3. Carefully disconnect the cables 2 & 3, and then remove the screw 4 (***Figure 10b***).
4. The Wireless LAN module 5 (***Figure 10c***) will pop-up, and you can remove it from the computer (***Figure 10d***).

Figure 10
Wireless LAN Module Removal

a. Locate the WLAN.
b. Disconnect the cables and remove the screw.
c. The WLAN module will pop up.
d. Remove the Wireless LAN module.

Note: Make sure you reconnect the antenna cable to the "1 + 2" socket (***Figure 10b***).

a.



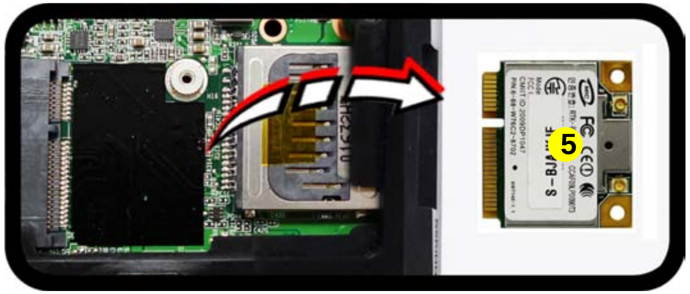
b.



c.



d.



5.Wireless LAN Module

- 1 Screw

Figure 11
Bluetooth Module Removal

a. Locate the Bluetooth module.
b. Remove the screw and turn the module over.
c. Disconnect the cable and the connector from the Bluetooth module.
d. Lift the Bluetooth module out.

Removing the Bluetooth Module

1. Turn **off** the computer, turn it over, and remove the battery (***page 2 - 5***) and the component bay cover (***page 2 - 8***).
2. The Bluetooth module will be visible at point 1 on the mainboard (***Figure 11a***).
3. Remove screw 2 (***Figure 11b***) and turn the module over (***Figure 11c***).
4. Carefully disconnect the cable 3 and separate the connector 4 (***Figure 11c***) from the Bluetooth Module.
5. Lift the Bluetooth Module 5 (***Figure 11d***) up and off the computer.

a.



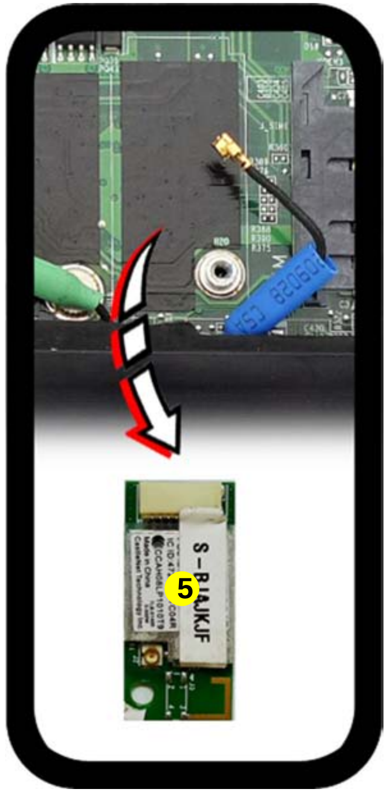
b.



c.



d.



5. Bluetooth Module

- 1 Screw

2.Disassembly

Removing the Keyboard

1. Turn **off** the computer, and remove the battery (***page 2 - 5***).
2. Remove screws 1 - 2 from the bottom of the computer. Press at point 3 to unsnap the LED cover module (you may need to use a small screwdriver to do this ***Figure 12a***).
3. Turn the computer over, unsnap up the LED cover module 4 from point 5 on the left of the computer, towards the right (***Figure 12b***).
4. Remove screws 6 - 10 from the keyboard (***Figure 12c***).
5. Carefully lift the keyboard up, being careful not to bend the keyboard ribbon cable 11. Disconnect the keyboard ribbon cable 11 from the locking collar socket 12 (***Figure 12d***)
6. Carefully lift up the keyboard 13 (***Figure 12e***) off the computer.

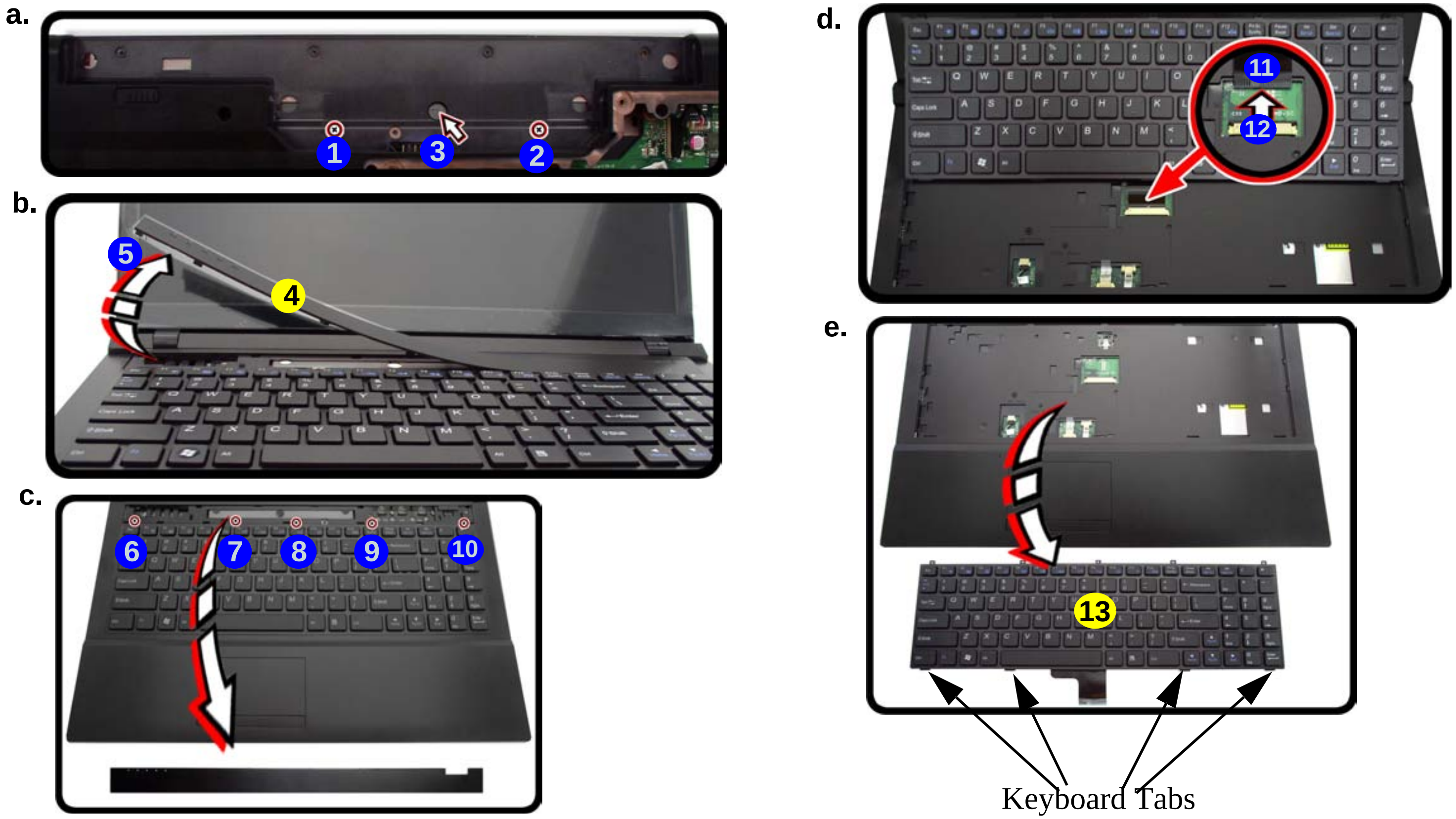


Figure 12
Keyboard Removal

a. Remove screws from the bottom of the computer.
b. Turn the computer over, unsnap up the LED cover module from point 5 towards the right .
c. Remove screws from the keyboard.
d. Carefully lift the keyboard up and disconnect the keyboard ribbon cable from the locking collar socket.
e. Remove the keyboard.

Re-Inserting the Keyboard

When re-inserting the keyboard firstly align the **four** keyboard tabs at the bottom (***Figure 12c***) at the bottom of the keyboard with the slots in the case.

4. LED Cover Module
13. Keyboard

- 7 Screws

Appendix A:Part Lists

This appendix breaks down the ***E5120Q/E5120Q-C/E5125/E5125-C/E5128Q/E5128Q-C*** series notebook's construction into a series of illustrations. The component part numbers are indicated in the tables opposite the drawings.

Note: This section indicates the *manufacturer's* part numbers. Your organization may use a different system, so be sure to cross-check any relevant documentation.

Note: Some assemblies may have parts in common (especially screws). However, the part lists DO NOT indicate the total number of duplicated parts used.

Note: Be sure to check any update notices. The parts shown in these illustrations are appropriate for the system at the time of publication. Over the product life, some parts may be improved or re-configured, resulting in *new* part numbers.

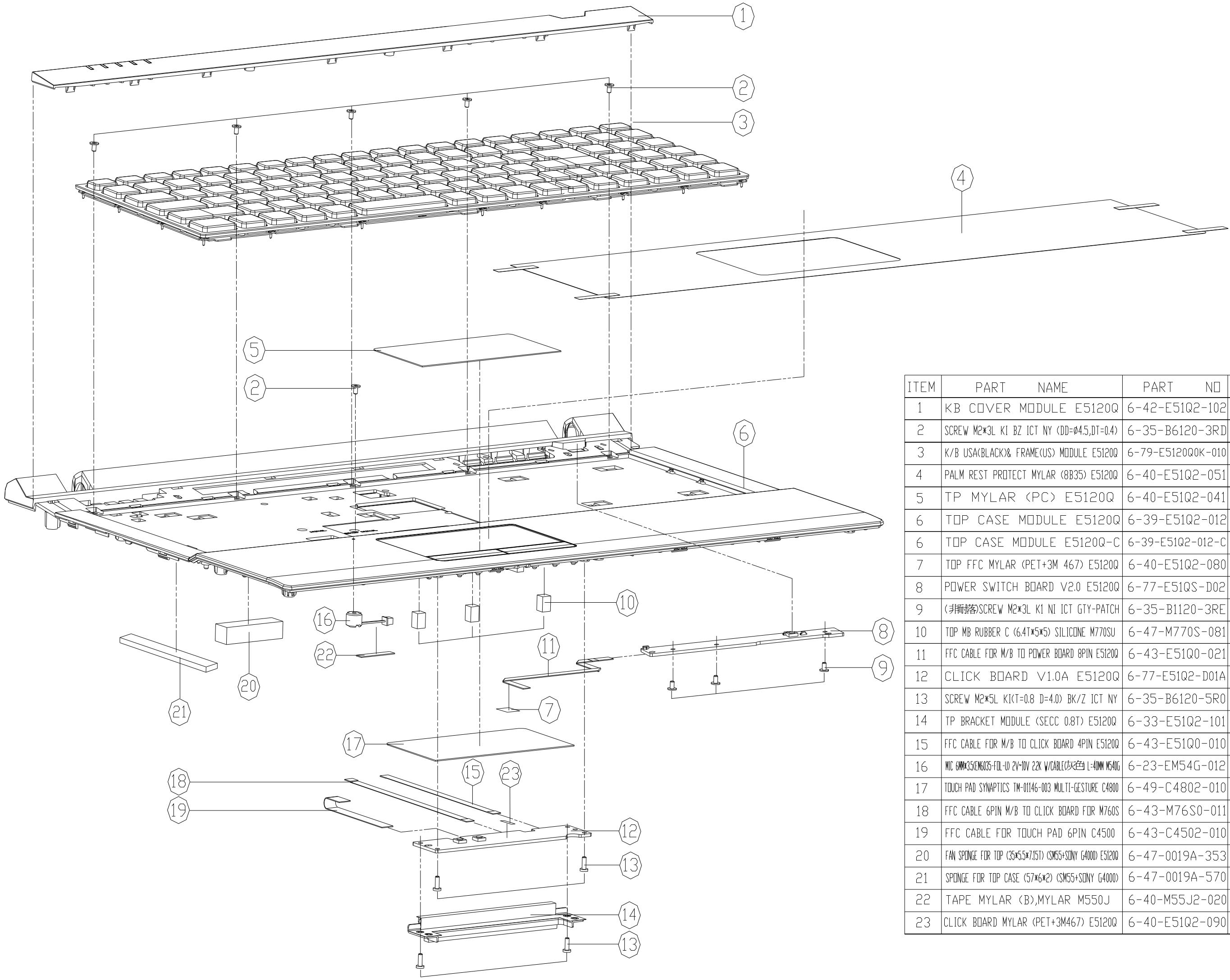
Part List Illustration Location

The following table indicates where to find the appropriate part list illustration.

Table A - 1
Part List Illustration Location

Part	**E5120Q/E5120Q-C/E5125/ E5125-C/E5128Q/E5128Q-C**
Top (E5120Q)	*page A - 3*
Top (E5125)	*page A - 4*
Top (E5128Q)	*page A - 5*
Bottom	*page A - 6*
DVD Dual Drive	*page A - 7*
LCD	*page A - 8*

Top (E5120Q)



ITEM	PART NAME	PART NO	REMARK
1	KB COVER MODULE E5120Q	6-42-E51Q2-102	
2	SCREW M2*3L KI BZ ICT NY (DD=ø4.5,DT=0.4)	6-35-B6120-3RD	
3	K/B USA(BLACK)& FRAME(US) MODULE E5120Q	6-79-E5120Q0K-010	
4	PALM REST PROTECT MYLAR (8B35) E5120Q	6-40-E51Q2-051	
5	TP MYLAR (PC) E5120Q	6-40-E51Q2-041	
6	TOP CASE MODULE E5120Q	6-39-E51Q2-012	
6	TOP CASE MODULE E5120Q-C	6-39-E51Q2-012-C	
7	TOP FFC MYLAR (PET+3M 467) E5120Q	6-40-E51Q2-080	
8	POWER SWITCH BOARD V2.0 E5120Q	6-77-E51QS-D02	
9	(非耐落)SCREW M2*3L K1 NI ICT GTY-PATCH	6-35-B1120-3RE	
10	TOP MB RUBBER C (6.4T*5*5) SILICONE M770SU	6-47-M770S-081	
11	FFC CABLE FOR M/B TO POWER BOARD 8PIN E5120Q	6-43-E51Q0-021	
12	CLICK BOARD V1.0A E5120Q	6-77-E51Q2-D01A	
13	SCREW M2*5L KI(T=0.8 D=4.0) BK/Z ICT NY	6-35-B6120-5R0	
14	TP BRACKET MODULE (SECC 0.8T) E5120Q	6-33-E51Q2-101	
15	FFC CABLE FOR M/B TO CLICK BOARD 4PIN E5120Q	6-43-E51Q0-010	
16	MIC 6MM*3.5(EM6035-FOL-U) 2V~10V 2.2K W/CABLE(灰色) L=40MM M540G	6-23-EM54G-012	
17	TOUCH PAD SYNAPTICS TM-01146-003 MULTI-GESTURE C4800	6-49-C4802-010	
18	FFC CABLE 6PIN M/B TO CLICK BOARD FOR M760S	6-43-M76S0-011	
19	FFC CABLE FOR TOUCH PAD 6PIN C4500	6-43-C4502-010	
20	FAN SPONGE FOR TOP (35*5.5*7.15T) (SM55+SONY G4000) E5120Q	6-47-0019A-353	
21	SPONGE FOR TOP CASE (57*6*2) (SM55+SONY G4000)	6-47-0019A-570	
22	TAPE MYLAR (B),MYLAR M550J	6-40-M55J2-020	ONLY FOR E5120Q-C
23	CLICK BOARD MYLAR (PET+3M467) E5120Q	6-40-E51Q2-090	

Figure A - 1
Top (E5120Q)

Top (E5125)

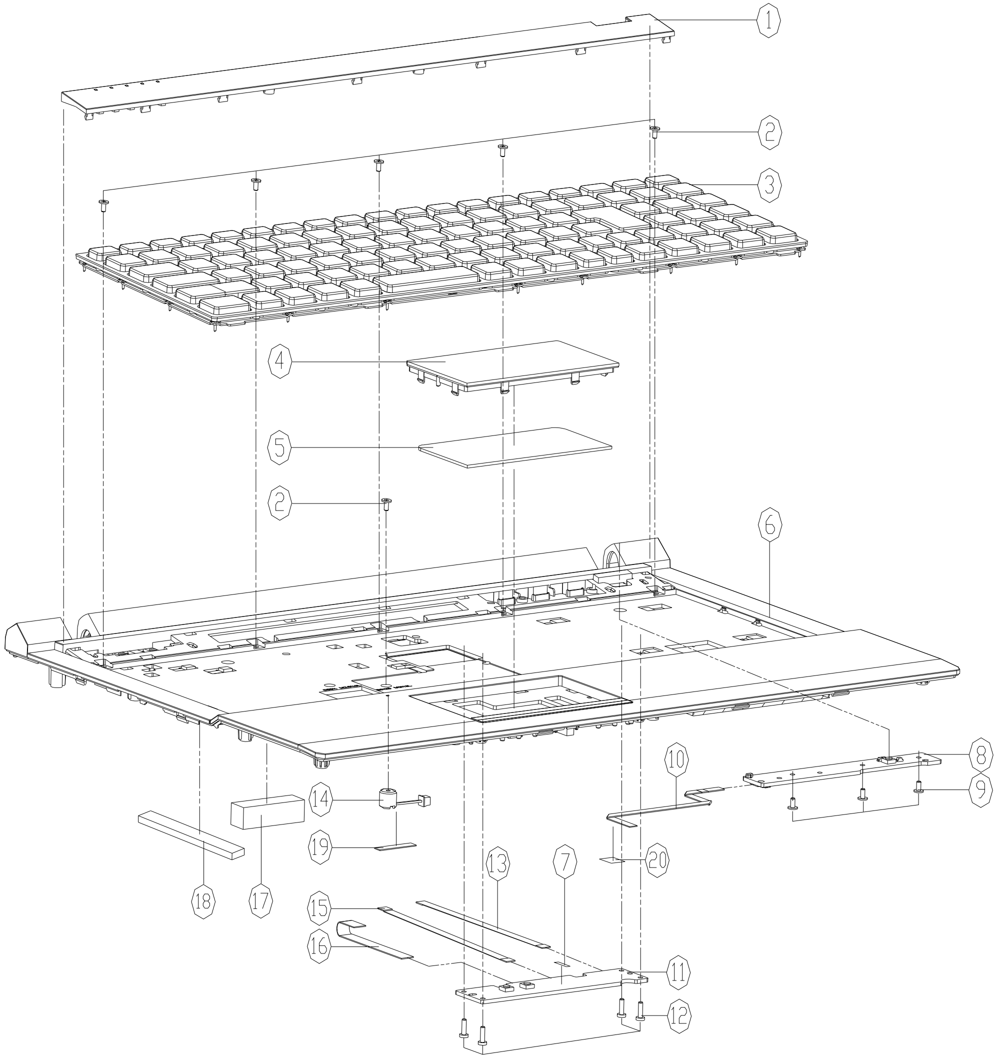
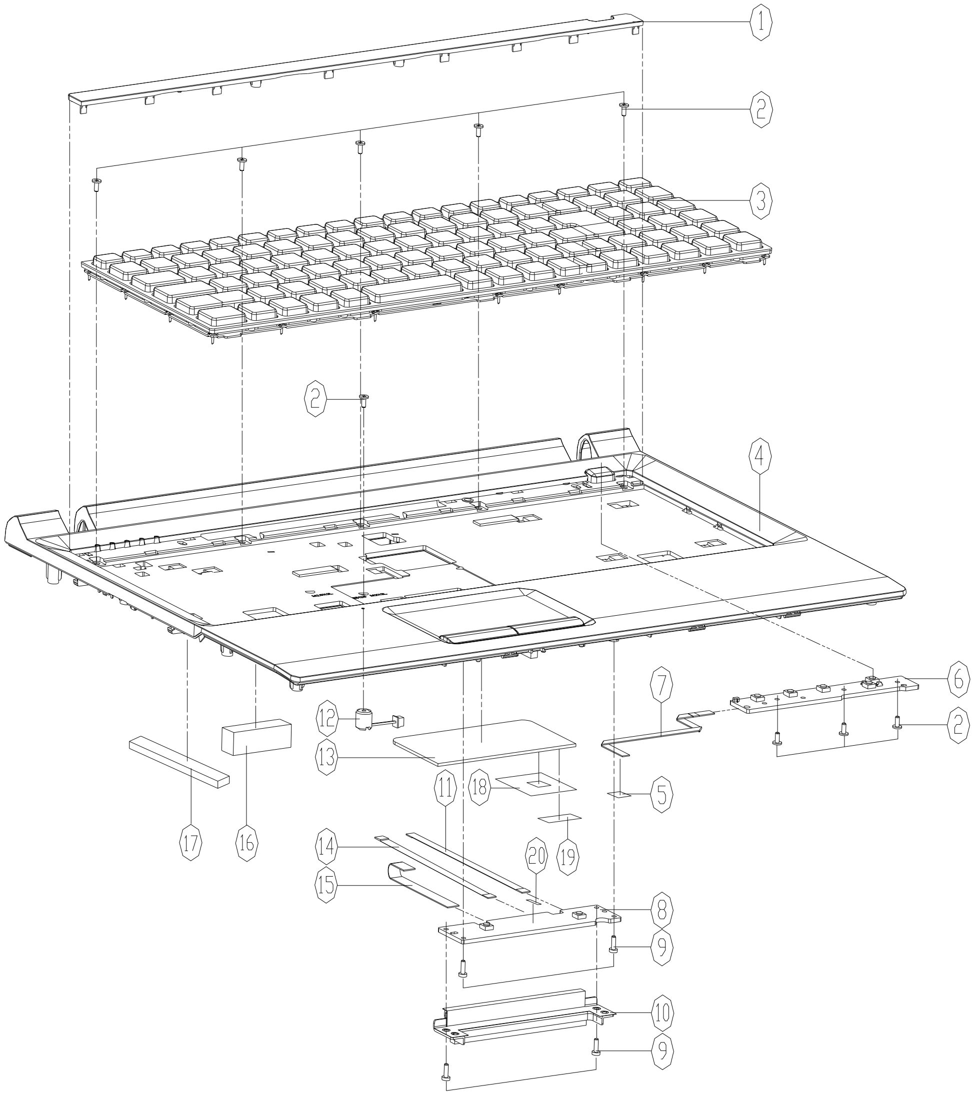


Figure A - 2
Top (E5125)

ITEM	PART NAME	PART NO	REMARK
1	KB COVER MODULE E5125	6-42-E5158-101	
2	SCREW M2*3L KI BZ ICT NY (DD=ø4.5,DT=0.4)	6-35-B6120-3RD	
3	K/B USA(BLACK)& FRAME(US) MODULE E5120Q	6-79-E5120Q0K-010	
4	CLICK BUTTON PLATE (PC+ABS) E5125	6-42-E5152-062	
5	TOUCH PAD SYNAPTICS TM-01146-003 MULTI-GESTURE C4800	6-49-C4802-010	
6	TOP CASE MODULE E5125	6-39-E5152-012	
6	TOP CASE MODULE E5125-C	6-39-E5152-012-C	
7	CLICK BOARD MYLAR (PET+3M467) E5120Q	6-40-E51Q2-090	
8	POWER SWITCH BOARD V2.0 E5120Q	6-77-E51QS-D02	
9	(非斷落)SCREW M2*3L K1 NI ICT GTY-PATCH	6-35-B1120-3RE	
10	FFC CABLE FOR M/B TO POWER BOARD 8PIN E5120Q	6-43-E51Q0-021	
11	CLICK BOARD V1.0A E5120Q	6-77-E51Q2-D01A	
12	SCREW M2*5L KI(T=0.8 D=4.0) BK/Z ICT NY	6-35-B6120-5R0	
13	FFC CABLE FOR M/B TO CLICK BOARD 4PIN E5120Q	6-43-E51Q0-010	
14	MIC 6MM*3.5(EM6035-FOL-U) 2V~10V 2.2K W/CABLE(灰色)L=40MM M540G	6-23-EM54G-012	
15	FFC CABLE 6PIN M/B TO CLICK BOARD FOR M760S	6-43-M76S0-011	
16	FFC CABLE FOR TOUCH PAD 6PIN C4500	6-43-C4502-010	
17	FAN SPONGE FOR TOP (35*5.5*7.15T) (SM55+SONY G4000) E5120Q	6-47-0019A-353	
18	SPONGE FOR TOP CASE (57*6*2) (SM55+SONY G4000)	6-47-0019A-570	
19	TAPE MYLAR (B),MYLAR M550J	6-40-M55J2-020	ONLY FOR E5125Q-C
20	TOP FFC MYLAR (PET+3M 467) E5120Q	6-40-E51Q2-080	

Top (E5128Q)

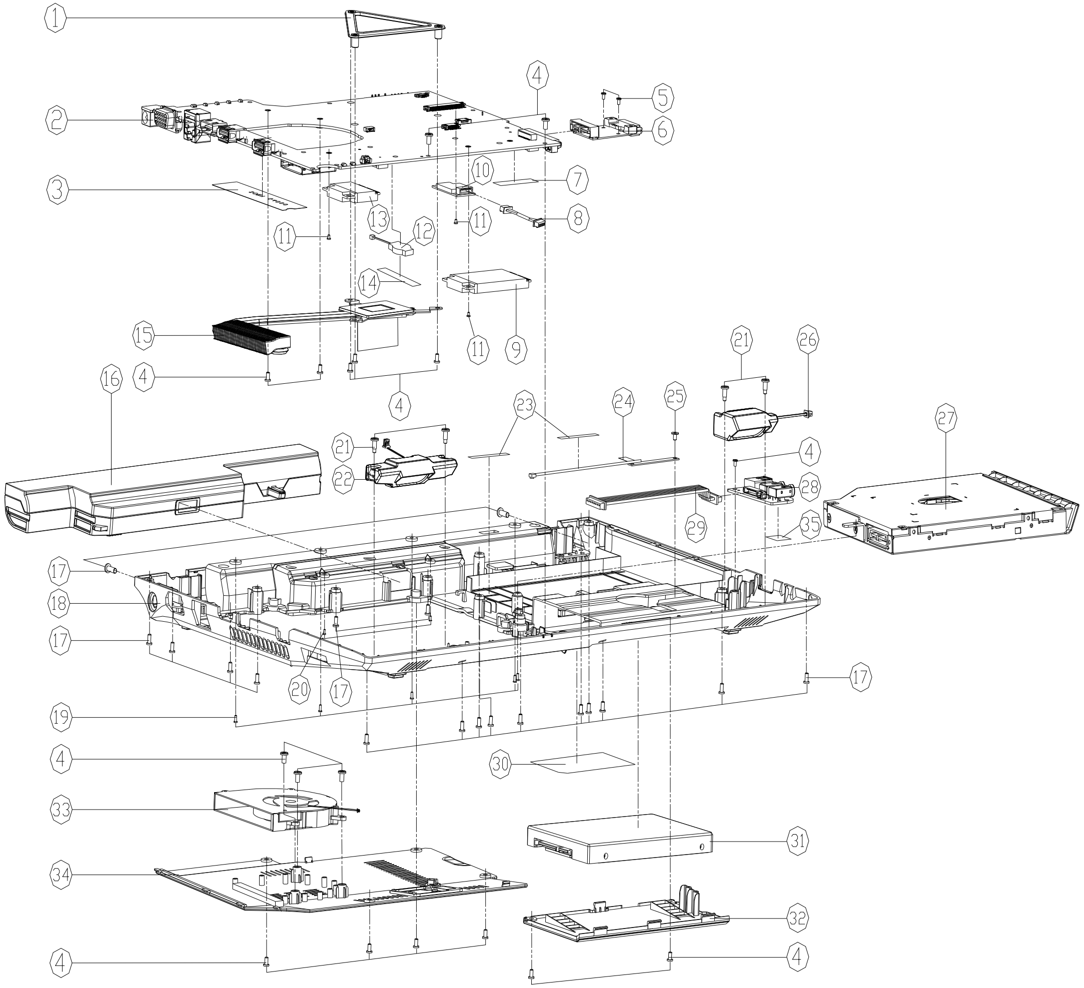


ITEM	PART NAME	PART NO	REMARK
1	KB COVER PC+ABS(CM6140) E5128Q	6-42-E5182-011	
2	(非耐落)SCREW M2*3L K1 NI ICT GTY-PATCH	6-35-B1120-3RE	
3	K/B USA(BLACK)& FRAME(US) MODULE E5120Q	6-79-E5120Q0K-010	
4	TOP CASE MODULE E5128Q	6-39-E5182-011	
4	TOP CASE MODULE E5128Q-C	6-39-E5182-011-C	
5	TOP FFC MYLAR (PET+3M 467) E5120Q	6-40-E51Q2-080	
6	POWER SWITCH BOARD V2.0 E5128Q	6-77-E518S-D02	
7	FFC CABLE FOR M/B TO POWER BOARD 8PIN E5120Q	6-43-E51Q0-021	
8	CLICK BOARD V1.0A E5120Q	6-77-E51Q2-D01A	
9	(非耐落)SCREW M2*4L I BZ ICT GTY-PATCH (T=0.8 D=4)	6-35-C6120-4RB	
10	TP BRACKET MODULE E5128Q	6-33-E5182-100	
11	FFC CABLE FOR M/B TO CLICK BOARD 4PIN E5120Q	6-43-E51Q0-010	
12	MIC 6MM*3.5(EM6035-FOL-U) 2V~10V 2.2K W/CABLE(灰色)L=40MM M540G	6-23-EM54G-012	
13	TOUCH PAD SYNAPTICS TM-01146-003 MULTI-GESTURE C4800	6-49-C4802-010	
14	FFC CABLE 6PIN M/B TO CLICK BOARD FOR M760S	6-43-M76S0-011	
15	FFC CABLE FOR TOUCH PAD 6PIN C4500	6-43-C4502-010	
16	FAN SPONGE FOR TOP (35*5.5*7.15T) (SM55+SONY G4000) E5120Q	6-47-0019A-353	
17	SPONGE FOR TOP CASE (57*6*2) (SM55+SONY G4000)	6-47-0019A-570	
18	TP MYLAR PET E5128Q	6-40-E5182-020	ONLY FOR E5128Q
19	AL FOIL FOR TP E5128Q	6-47-E5182-020	ONLY FOR E5128Q
20	CLICK BOARD MYLAR (PET+3M467) E5120Q	6-40-E51Q2-090	

Figure 3
Top (E5128Q)

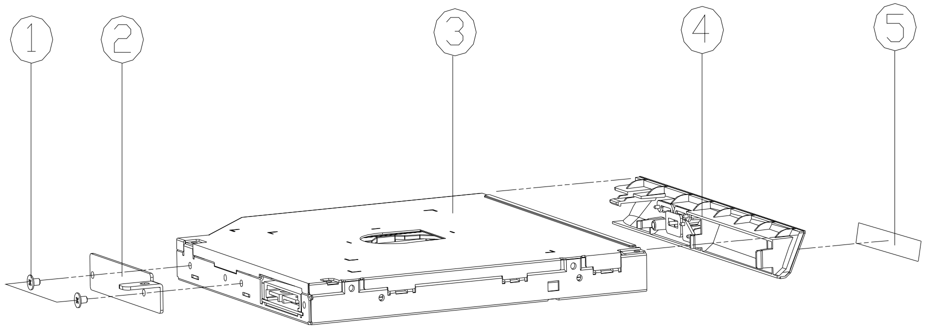
Bottom

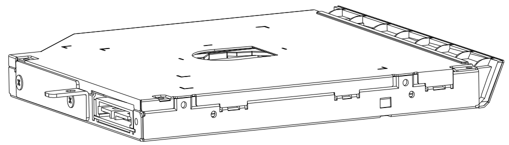
Figure A - 4
Bottom



ITEM	PART NAME	PART NO	REMARK
1	CPU SUPPORT BRACKET SECC E4120	6-33-E412S-010	
2	MAIN BOARD V2.0A (W/3G) E5120Q	6-77-E51Q0-D02A	
2	MAIN BOARD V2.0A (W/O 3G) E5120Q	6-77-E51Q0-D02A-1	
3	MYLAR FOR M/B FIN C4500	6-40-C450S-010	
4	SCREW M2*5L KI(T=0.8 D=4.0) BK/Z ICT NY	6-35-B6120-5R0	
5	SCREW M2*3L I BZ ICT GTY-PATCH NY (T=0.5 D=4)	6-35-C2120-3R0	
6	ODD BRIDGE BOARD V1.0 E5120Q	6-77-E51QN-D01	
7	TAPE MYLAR (B),MYLAR M550J	6-40-M55J2-020	
8	WIRE CABLE 6PIN M/B TO 8PIN BLUETOOTH MODULE	6-43-M76SB-011	
9	WCDMA HUAWEI EM775 HSPA HALF MIN-CARD USB 3.75G S1100	6-88-S110W-8810	(OPTION)
9	WCDMA BANDRICH M280 HSPA HALF MINI-CARD USB M1100Q	6-88-M11QW-9100	(OPTION)
10	BLUETOOTH V2.1 BTC04R281B 凱碩 8 PIN USB CSR BC04 A07 (4839) WITH MS BT	6-88-M77C5-5300	
11	SCREW M2*3L KI BZ ICT NY (DD=ø4.5,DT=0.4)	6-35-B6120-3RD	
12	BAT. 20MM 3V 220MAH W/CABLE 55MM BBBCR2032	6-23-22015-TC0	
13	WLAN AZUREWAVE AW-NE104H 802.11BGN HALF MINI-CARD	6-88-W76C2-7001	(OPTION)
13	WLAN XAVI XW714E 802.11BGN HALF MINI-CARD	6-88-W76C2-8702	(OPTION)
13	WLAN INTEL 622AN_HMW NOW 802.11AGN HALF MINI-CARD PCI-E 2X2 PUMA PEAK (WIFI LINK 6200)	6-88-M77C2-4210	(OPTION)
13	WLAN INTEL 633AN_HMW NOW 802.11AGN HALF MINI-CARD PCI-E 3X3 PUMA PEAK (WIFI LINK 6300)	6-88-M77C2-4220	(OPTION)
13	[illegible] 無NCC安規不可出台灣客戶	6-88-M77C2-4200	(OPTION)
14	TAPE MYLAR (A),MYLAR M550J	6-40-M55J2-010	
15	CPU THERMAL MODULE E4120	6-31-E412N-102	
16	BAT.P S LI 11.1V/4.4AH/48.84WH 3S2P SMP/BAK 980T2007 F C4800	6-87-C480S-4P42	(OPTION)
16	BAT.P S LI 11.1V/4.4AH/48.84WH 3S2P MITAC/LISHEN 541382960002 C4800	6-87-C480S-4G41	(OPTION)
16	BAT.P S LI 11.1V/5.6AH/62.16WH 3S2P SMP/SDI 980T2013F E4120	6-87-E412S-4D7	(OPTION)
16	BAT.P S LI 11.1V/4.4AH/48.84WH 3S2P CPT/BAK 910500001 E4120	6-87-E412S-4Y4	(OPTION)
17	SCREW M2.5*8L KI BK/Z NY ICT	6-35-B6125-8R0	
18	BOTTOM CASE MODULE E5120Q	6-39-E51Q3-012	
18	BOTTOM CASE MODULE E5120Q-C	6-39-E51Q3-012-C	
19	SCREW M2*5L KI(T=0.8 D=4.0) BK/Z ICT NY	6-35-B6120-5R0	
20	(非耐落)SCREW M2*3L KI NI ICT GTY-PATCH (DD=ø4.0,DT=0.8)	6-35-B1120-3RD	
21	SCREW M2*6.2L NI ICT NY FOR SPEAKER	6-35-Z1120-6R2	
22	SPK+CABLE (L) 14*62 1W 8? 15MM PB2512KN08-4-7LK (VECD) E5120Q	6-23-5E51Q-011	
23	TAPE MYLAR (C),MYLAR M550J	6-40-M55J2-030	
24	ANTENNA BLUETOOTH FVC BT PCB 2.4G L=120MM	6-23-7E51Q-030	
25	(非耐落)SCREW M2*3L K1 NI ICT GTY-PATCH	6-35-B1120-3RE	
26	SPK+CABLE (R) 34*66 1W 8? 25MM PB2512KN08-4-8LK (VECD) E5120Q	6-23-5E51Q-021	
27	SATA DVD SUPER MULTI ASS'Y (OPTION)	6-79-E5120Q0Q-000	
27	W/O ODD ASS'Y E5120Q	6-79-E5120Q0Z-000	
28	AUDIO BOARD V2.0A C4500	6-77-C4508-D02A	
29	WIRE CABLE 14PIN M/B TO AUDIO 162MM ADD MYLAR (HL) E5120Q	6-43-E51Q0-031	
30	PRODUCT LABEL FOR E5120Q	6-45-E5120Q03-010	
30	PRODUCT LABEL FOR E5125	6-45-E5125003-010	
30	PRODUCT LABEL FOR E5128Q	6-45-E5128Q03-010	
31	W/O HDD ASS'Y E5120Q	6-79-E5120Q0J-010	
31	W/HDD ASS'Y E5120Q	6-79-E5120Q0J-020	
32	HDD COVER (PC+ABS) E5120Q	6-42-E51QJ-011	
33	FAN+CON. 65*60*8.1 5V 0.35A AB6505HX-J03 4800RPM ADDA C4500	6-23-AC450-012	
34	CPU COVER MODULE W/3G E5120Q	6-42-E51Q3-102	
34	CPU COVER MODULE W/O 3G E5120Q	6-42-E51Q3-202	
35	AUDIO BOARD MYLAR 20*20*0.15T (黑色 PET+3M 467) C4500	6-40-C450S-030	

DVD Dual Drive



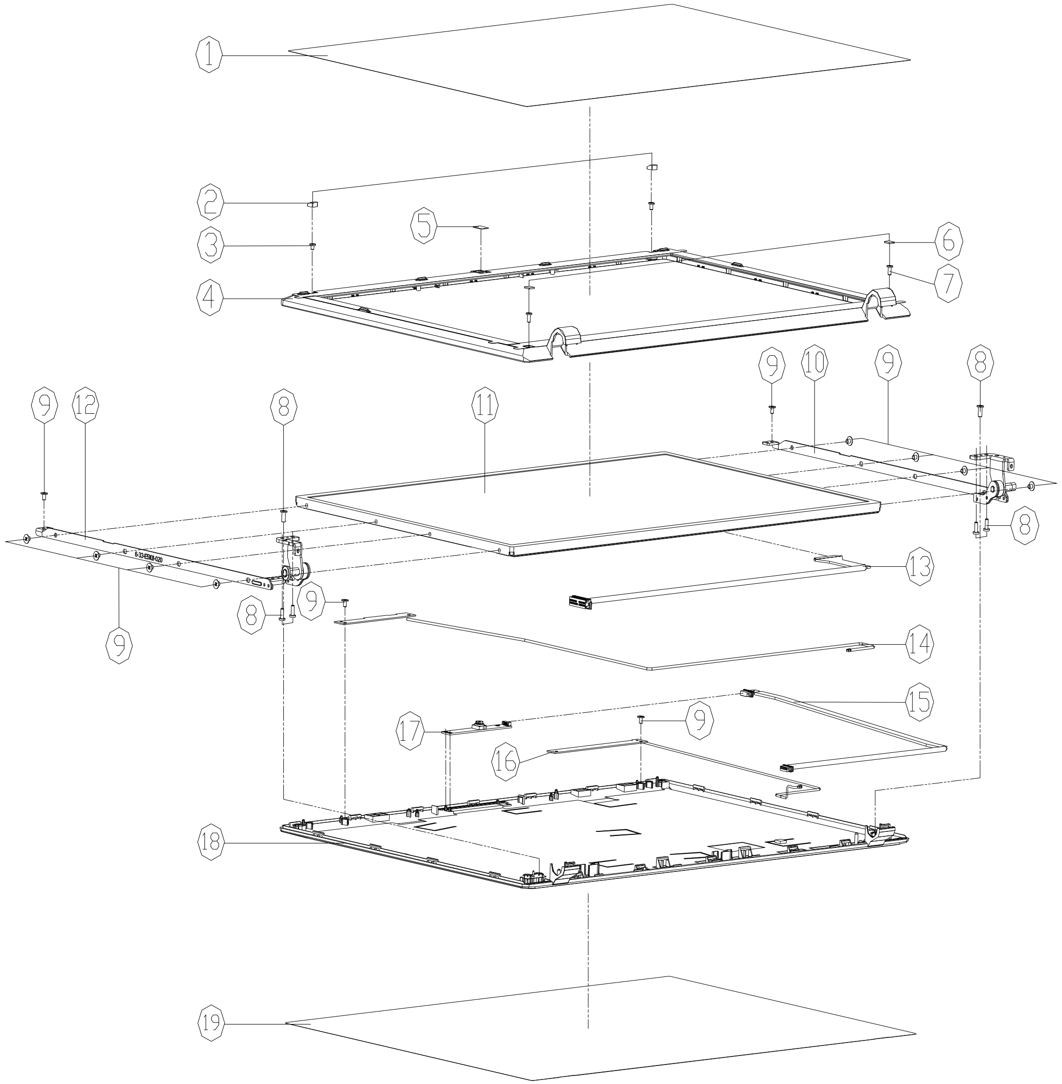


ITEM	PART NAME	PART NO	REMARK
1	(非耐落)SCREW M2*3L K1 NI ICT GTY-PATCH	6-35-B1120-3RE	
2	CD ROM BRACKET SECC (志精) M740S	6-33-M74SZ-012-1	
3	SATA DVD SUPER MULTI 5 1/4" 8X 12.7MM GT32N ROM VER. AS00 (WINDOWS 7 SUPPORT) HLDS	6-85-A078X-506	FOR HLDS
3	SATA DVD SUPER MULTI 5 1/4" 8X 12.7MM DS-8A5S F/W: VX13 (WINDOWS 7, ZERO POWER) PLDS	6-85-A078X-L05	FOR PLDS
3	SATA DVD SUPER MULTI 5 1/4" 8X 12.7MM TS-L633C/TMCF F/W TM01 H/W: A VER.C (WINDOWS 7 SUPPORT) TSST	6-85-A078X-T08	FOR TSST
3	SATA DVD SUPER MULTI 5 1/4" 8X 12.7MM TS-L633F/TMCFZ F/W TM00 H/W: A VERF (WINDOWS 7 SUPPORT) TSST	6-85-A078X-T09	FOR TSST
4	ODD BEZEL MODULE E5120Q	6-42-E51QZ-102	
5	SUPER MULTI ODD BEZEL LABEL (SIZE CHANGE)	6-45-W860Q-011	

Figure A - 5
DVD Dual Drive

LCD

Figure A - 6
LCD



ITEM	PART NAME	PART NO	REMARK
1	LCD FRONT COVER PROTECTION MYLAR (PET+3M8915) E5120Q	6-40-E51Q1-030	
2	LCD FRONT COVER SCREW RUBBER SLICON E5120Q	6-47-E51Q8-010	
3	SCREW M2*3L KI BZ ICT NY (DD=ø4.5,DT=0.4)	6-35-B6120-3RD	
4	LCD FRONT COVER MODULE E5120Q	6-39-E51Q1-011	
5	CCD LENS PMMA E5120Q	6-42-E51Q1-030	
5	W/O CCD LENS PMMA E5120Q	6-42-E51Q1-040	
6	FRONT COVER MYLAR PC FOR SCREW E5120Q	6-40-E51Q8-010	
7	SCREW M2*6L KI BK/Z ICT NY(ø3.5 t=0.4)	6-35-B6120-6RB	
8	SCREW M2.5*5L 頭厚0.4MM KI BK/Z ICT NY	6-35-B6125-5R0	
9	(非耐落)SCREW M2*3L K1 NI ICT GTY-PATCH	6-35-B1120-3RE	
10	LCD HINGE R SK7 E5120Q (SINHER)	6-33-E51Q1-010	
11	LCD 15.6" HD CHIMEI N156B6-L04 (GLARE TYPE) 5.5 MM (LED)	6-50-L8155-D01	
11	LCD 15.6" HD INNOLUX BT156GW02 V.0 5.5 MM	6-50-L8155-V02	FOR C51XX
11	LCD 15.6" HD SAMSUNG LTN156AT13-K01 (GLARE TYPE) (LED) 5.5MM	6-50-L8155-M02	FOR C55XX
11	LCD 15.6" HD INNOLUX BT156GW01 V.2 GLARE TYPE 5.5MM (LED)	6-50-L8155-V03	
11	LCD 15.6" HD INNOLUX BT156GW02 V.0 5.5 MM (LED)	6-50-L8155-V02	
11	LCD 15.6" HD IVO M156NWR2 (R0) (GLARE TYPE) LED 5.5MM	6-50-L8155-B00	
12	LCD HINGE L SK7 E5120Q (SINHER)	6-33-E51Q1-020	
13	WIRE CABLE FOR LVDS 299MM (HL/PS CON:20454-040T) E5120Q	6-43-E51Q1-011-B	
14	ANTENNA 3G FVC 3G PCB 0.8G/0.9G/1.8G/1.9G/2.1GHZ L=855MM E5120Q	6-23-7E51Q-040	
15	WIRE CABLE FOR CCD 5P 229MM (HL) E5120Q	6-43-E51QT-011	
16	ANTENNA WIMAX COMBO FVC WM1+WM2 PCB H=0.6MM 2.4G/3.5GHZ/5G WM1=792MM WM2=792MM E5120Q	6-23-7E51Q-011	FOR E51XX/C55XX
16	ANTENNA WIMAX COMBO FVC WM1+WM2 PCB H=0.6MM 2.4G/3.5GHZ/5G WM1=510MM WM2= 510MM	6-23-7C510-021	FOR C51XX
17	UVC CAMERA BISON FIX BN28M6SA8-030_V1.0 1.3M 6AA M810L	6-88-M810C-4911	OPTION
17	UVC CAMERA CHICONY FIX CNF9121210039211L 1.3M OV9665 M740TG	6-88-M74TC-5102	OPTION
17	UVC CAMERA CHICONY FIX CNF9085 300K OV7675 M1100	6-88-M110C-5100	OPTION
17	UVC CAMERA SIMPLO FIX C01PL009F 1.3M 6AA M810L	6-88-M810C-9001	OPTION
17	UVC CAMERA SIMPLO FIX C01PL007F 300K OV7675 M1100	6-88-M110C-9001	OPTION
18	LCD BACK IMR COVER MODULE E5120Q	6-39-E51Q1-021	
18	LCD BACK IMR COVER MODULE E5120Q-C	6-39-E51Q1-021-C	
18	BACK COVER MODULE E5125	6-39-E5151-021	
18	BACK COVER MODULE E5125-C	6-39-E5151-021-C	
18	LCD IMR BACK COVER MOUDLE E5128Q	6-39-E5181-021	
18	LCD IMR BACK COVER MOUDLE E5128Q-C	6-39-E5181-021-C	
19	LCD BACK COVER PROTECTION MYLAR (8B35+3M8915) E5120Q	6-40-E51Q1-040	FOR C5500Q/C5100Q FOR E5120Q/E5128Q
19	LCD BACK COVER PROTECTION MYLAR (PET+3M8915) B5100M	6-40-B51M8-020	FOR C5505Q/E5125Q FOR C5105Q

Appendix B: Schematic Diagrams

This appendix has circuit diagrams of the ***E5120Q/E5120Q-C/E5125/E5125-C/E5128Q/E5128Q-C*** notebook's PCB's. The following table indicates where to find the appropriate schematic diagram.

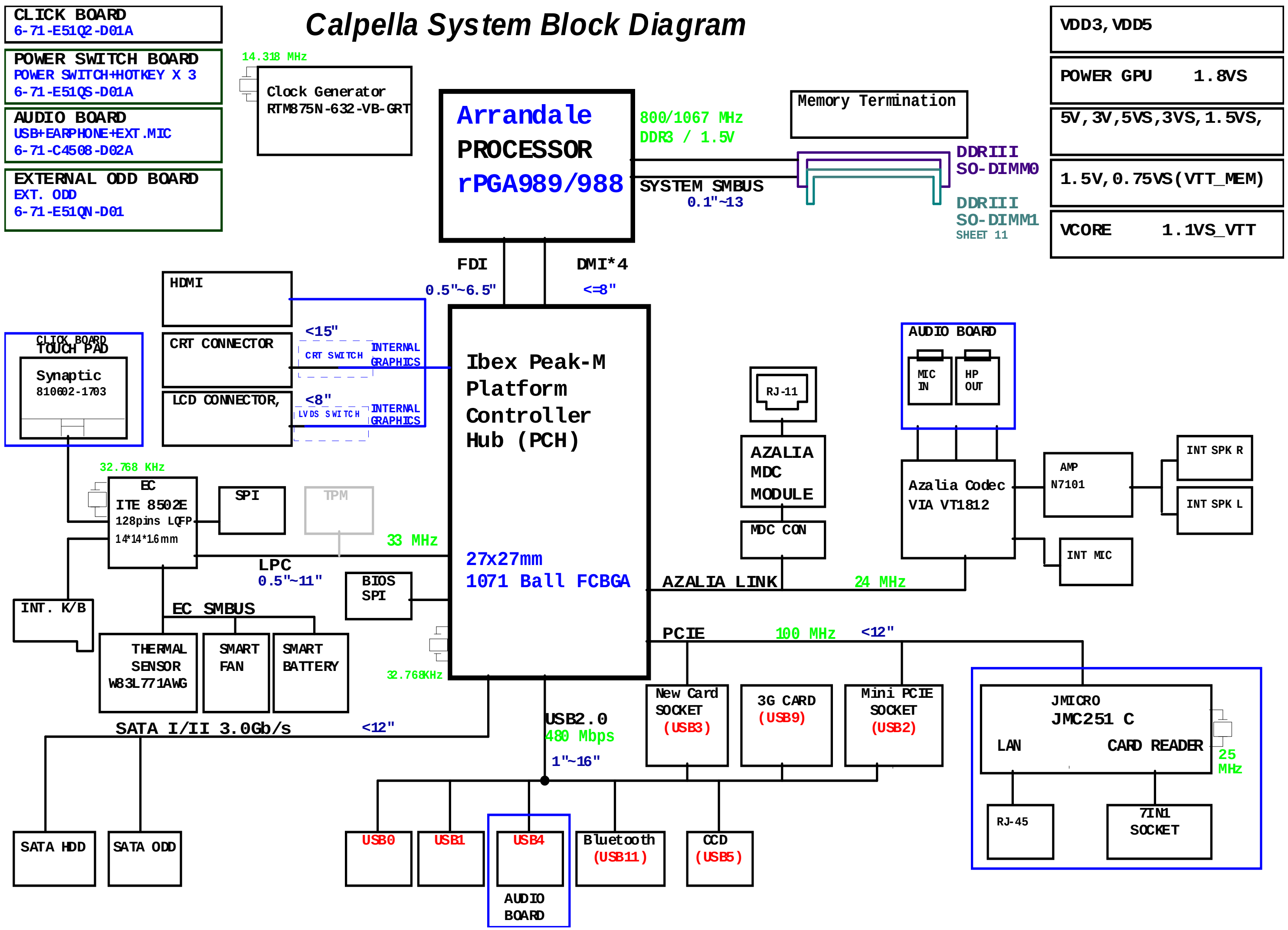
Table B - 1
SCHEMATIC DIAGRAMS

Version Note

The schematic diagrams in this chapter are based upon version 6-7P-E51Q5-003. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

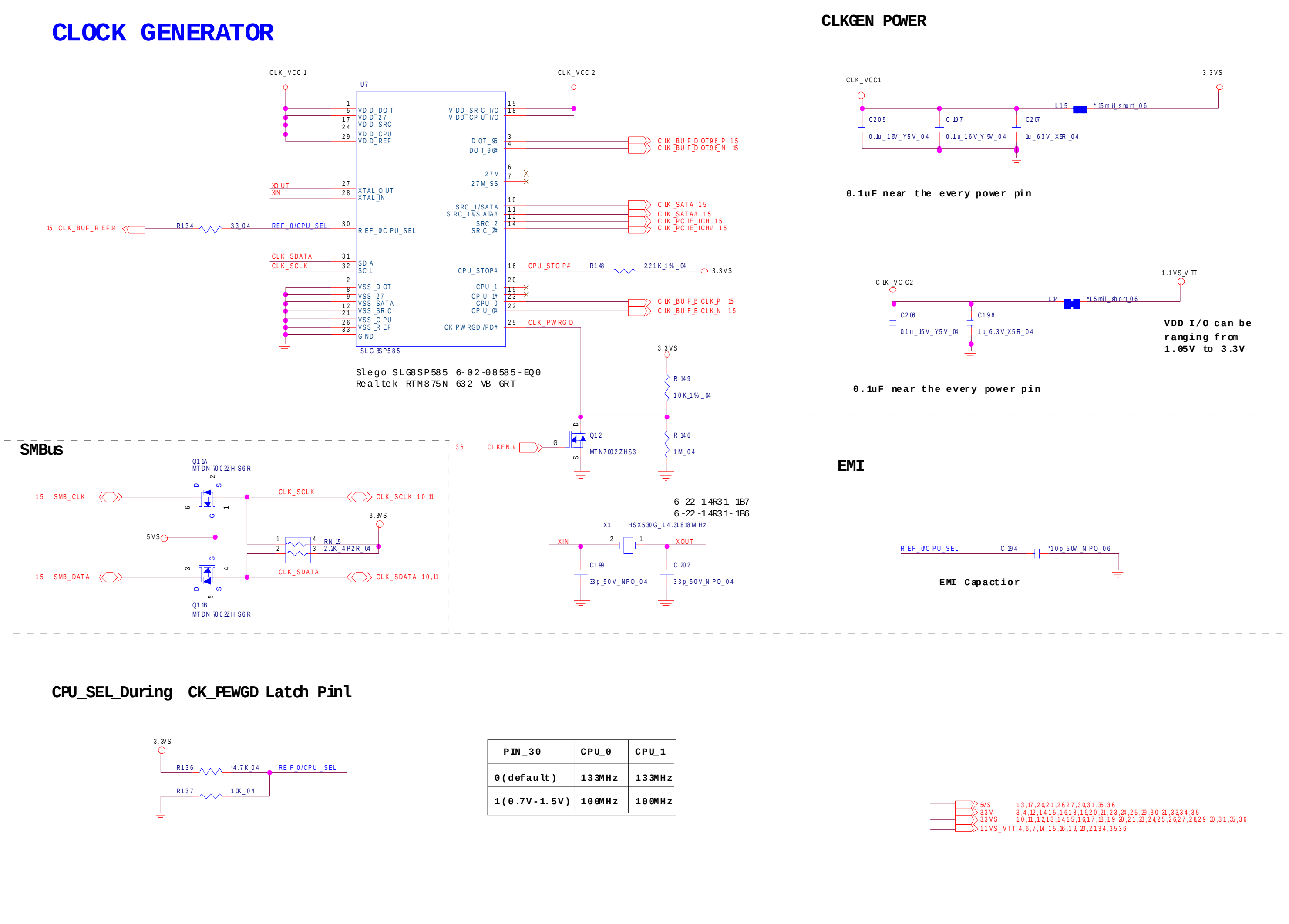
System Block Diagram

Sheet 1 of 42
System Block
Diagram



B.Schematic Diagrams

Clock Generator



PIN_30	CPU_0	CPU_1
0(default)	133MHz	133MHz
1(0.7V-1.5V)	100MHz	100MHz

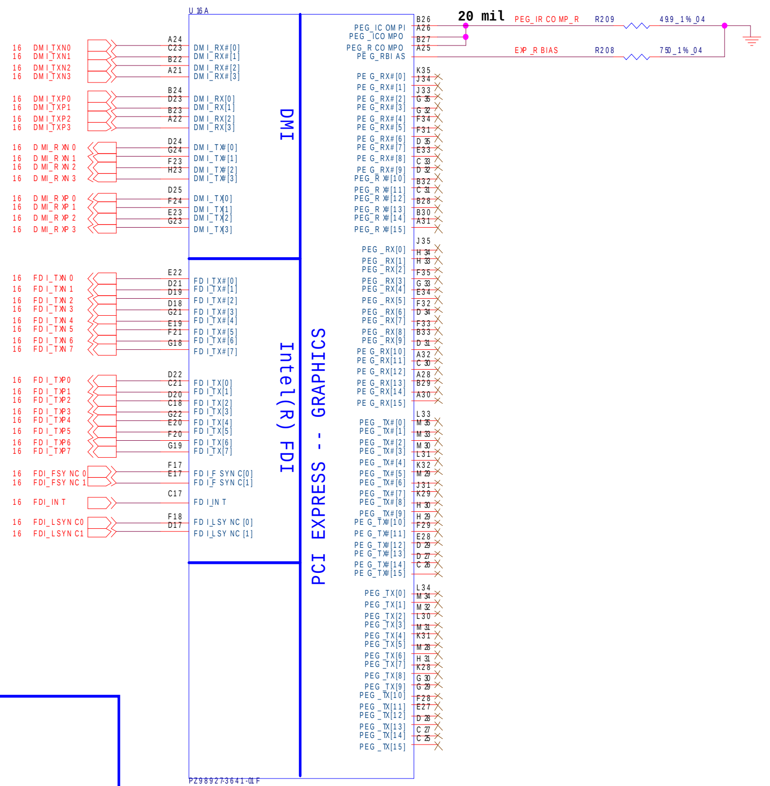
Sheet 2 of 42
Clock Generator

B.Schematic Diagrams

CPU 1/7 (DMI, PEG, FDI)

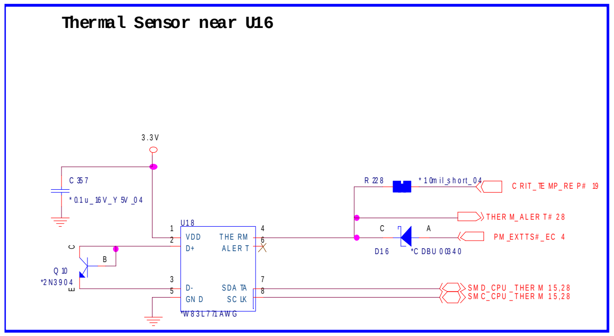
PROCESSOR 1/7 (DMI,PEG,FDI)

Sheet 3 of 42
CPU 1/7
(DMI, PEG, FDI)

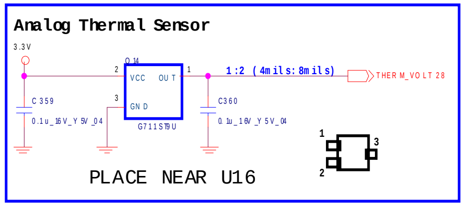


It applies to Auburndale and Clarksfield discrete graphic designs.
If discrete graphic chip is used for Auburndale, VAXG (GFX core) rail can be connected to GND if motherboard only supports discrete graphics and also in a common motherboard design if GFX VR is not stuffed. On the other hand, if the VR is stuffed, VAXG can be left floating in a common motherboard design (Gfx VR keeps VAXG from floating).
In addition, FDI_RXN_[7:0] and FDI_RXP_[7:0] can be left floating on the PCH. FDI_TX[7:0] and FDI_TX#[7:0] can be left floating on the Auburndale.
The GFX_IMON, FDI_FSYNC[0], FDI_FSYNC[1], FDI_LSYNC[0], FDI_LSYNC[1], and FDI_INT signals should be tied to GND (through 1K ? % resistors) in the common motherboard design case. Please not that if these signals are left floating, there are no functional impacts but a small amount of power (~15 mW) maybe wasted. VAXG_SENSE and VSSAXG_SENSE on Auburndale can be left as no connect.
DPLL_REF_SSCLK and DPLL_REF_SSCLK# can be connected to GND on Auburndale directly if motherboard only supports discrete graphics. In a common motherboard design, these pins are driven via PCH (even if Graphics is disabled by BIOS) thus no external termination is required.

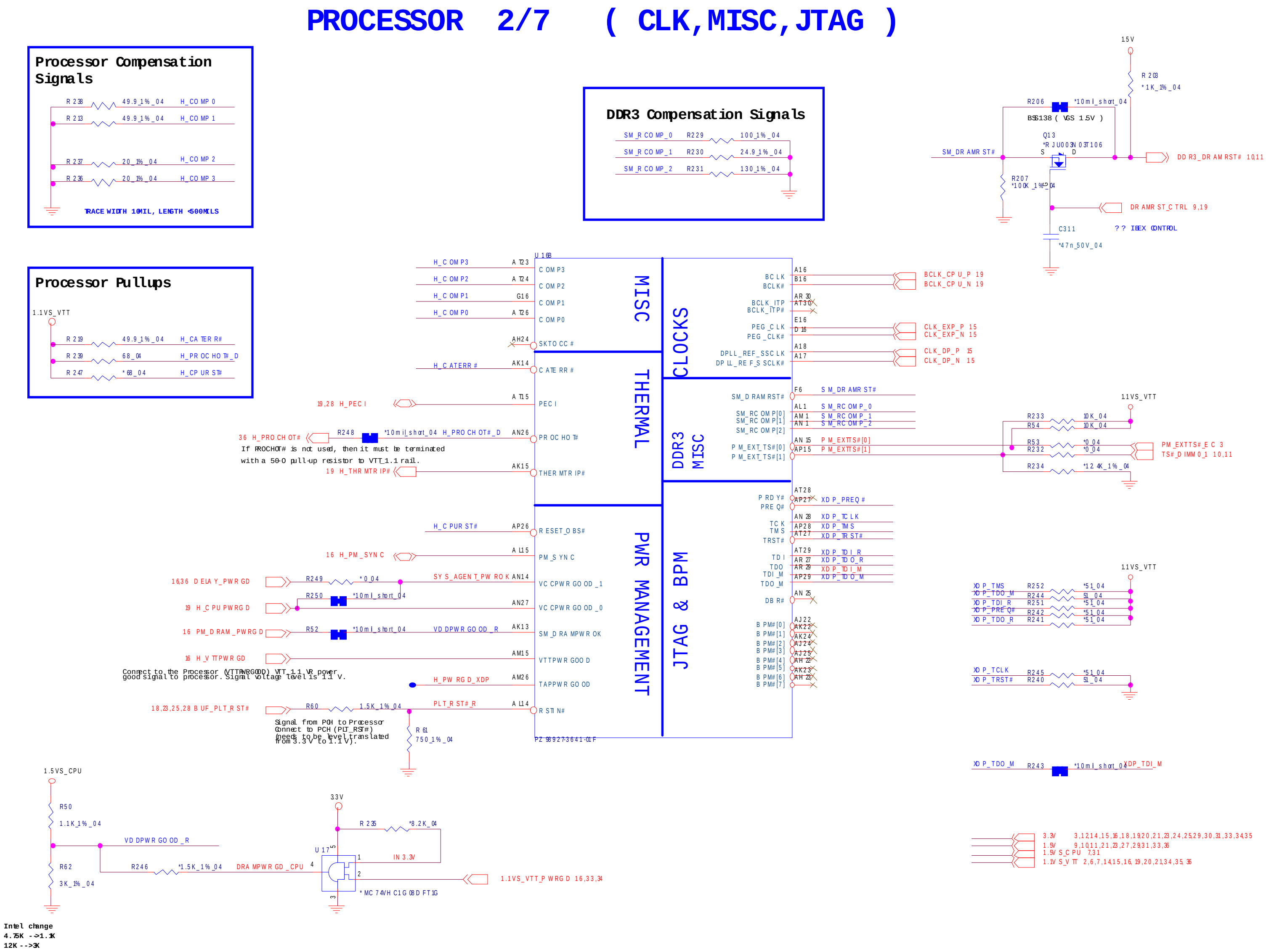
Thermal Sensor near U16



Analog Thermal Sensor

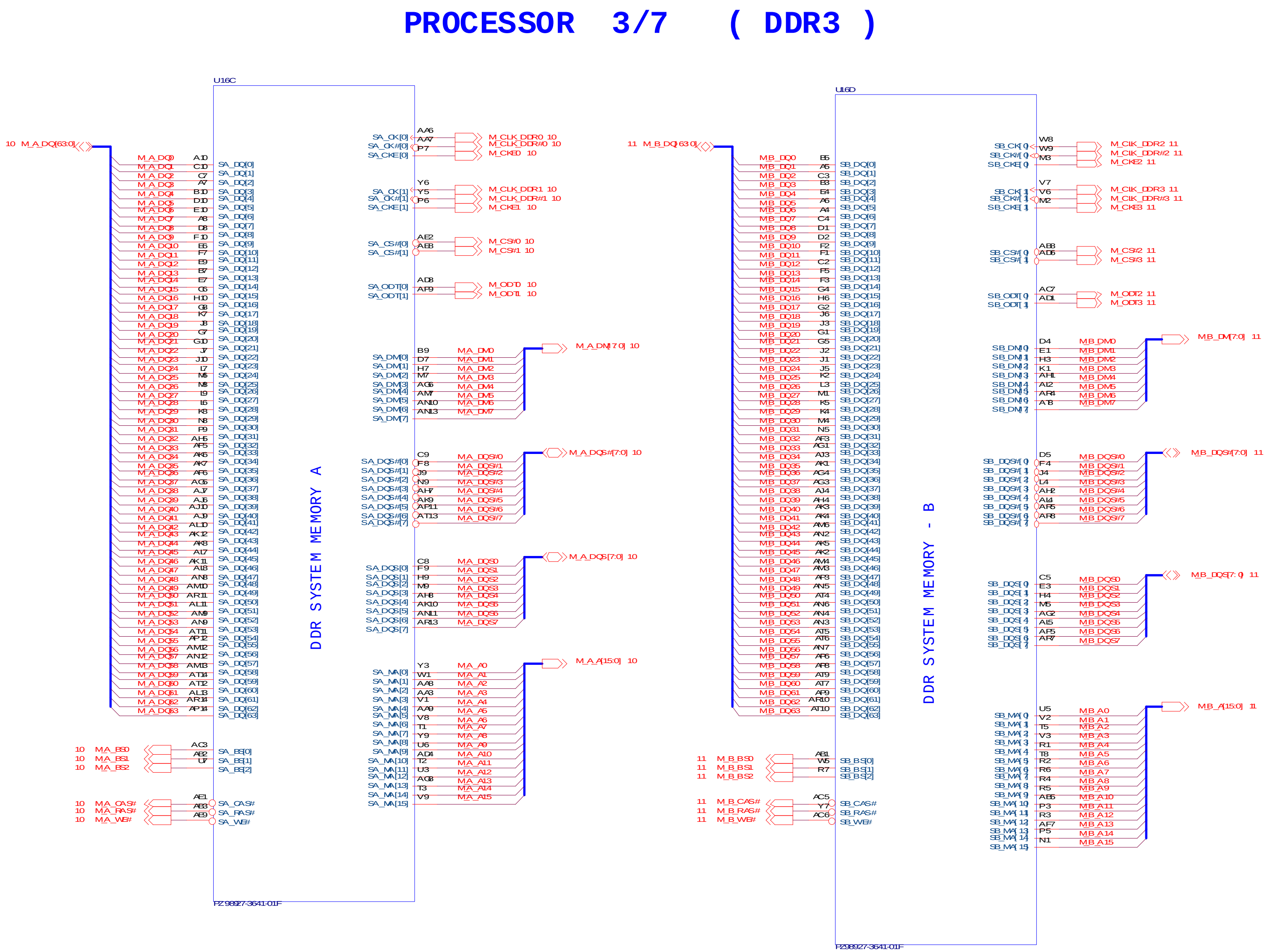


CPU 2/7 (CLK, MISC, JTAG)



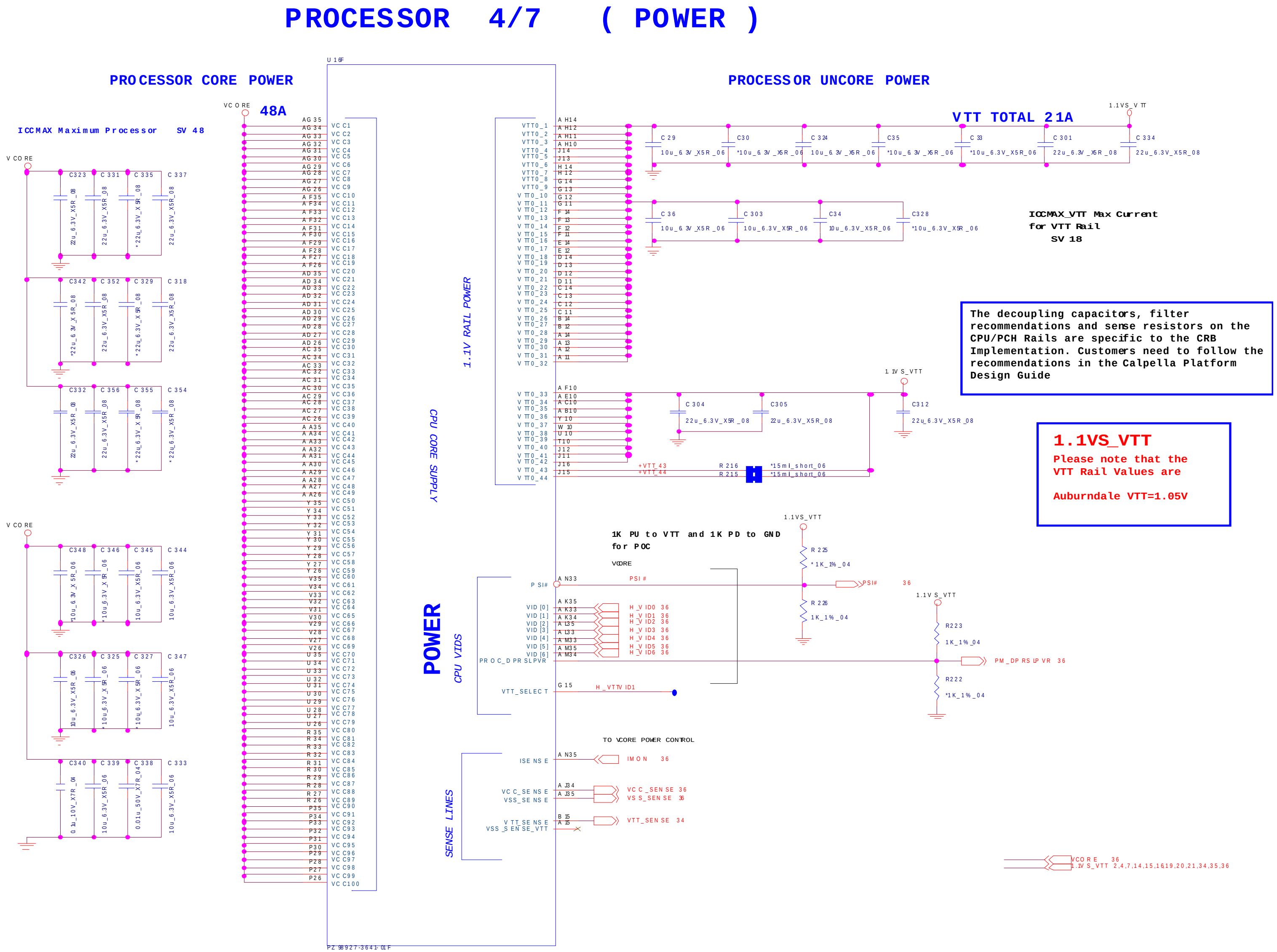
Sheet 4 of 42
CPU 2/7
(CLK, MISC, JTAG)

CPU 3/7 (DDR3)



Sheet 5 of 42
CPU 3/7
(DDR3)

CPU 4/7 (Power)

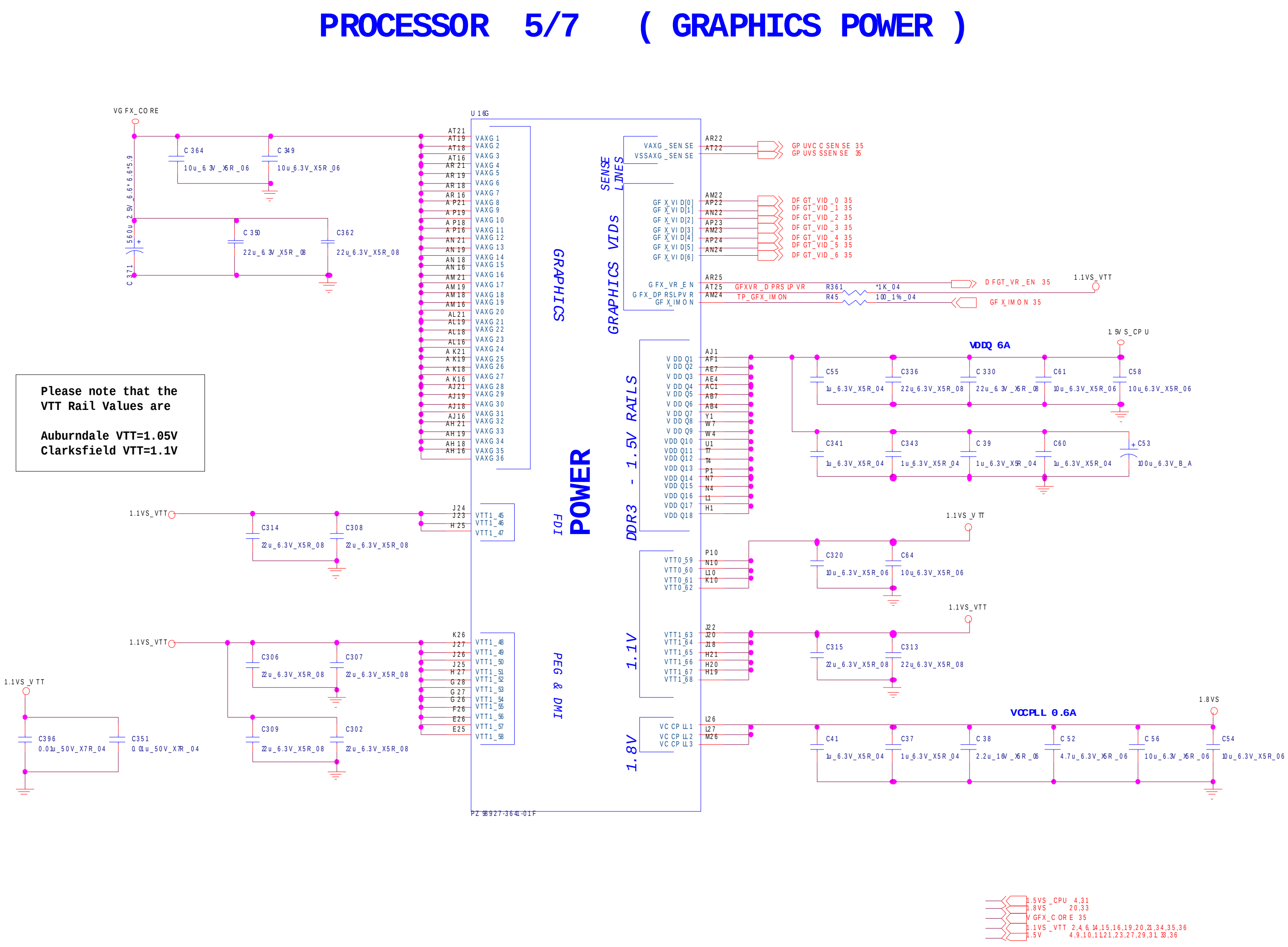


Sheet 6 of 42
CPU 4/7
(Power)

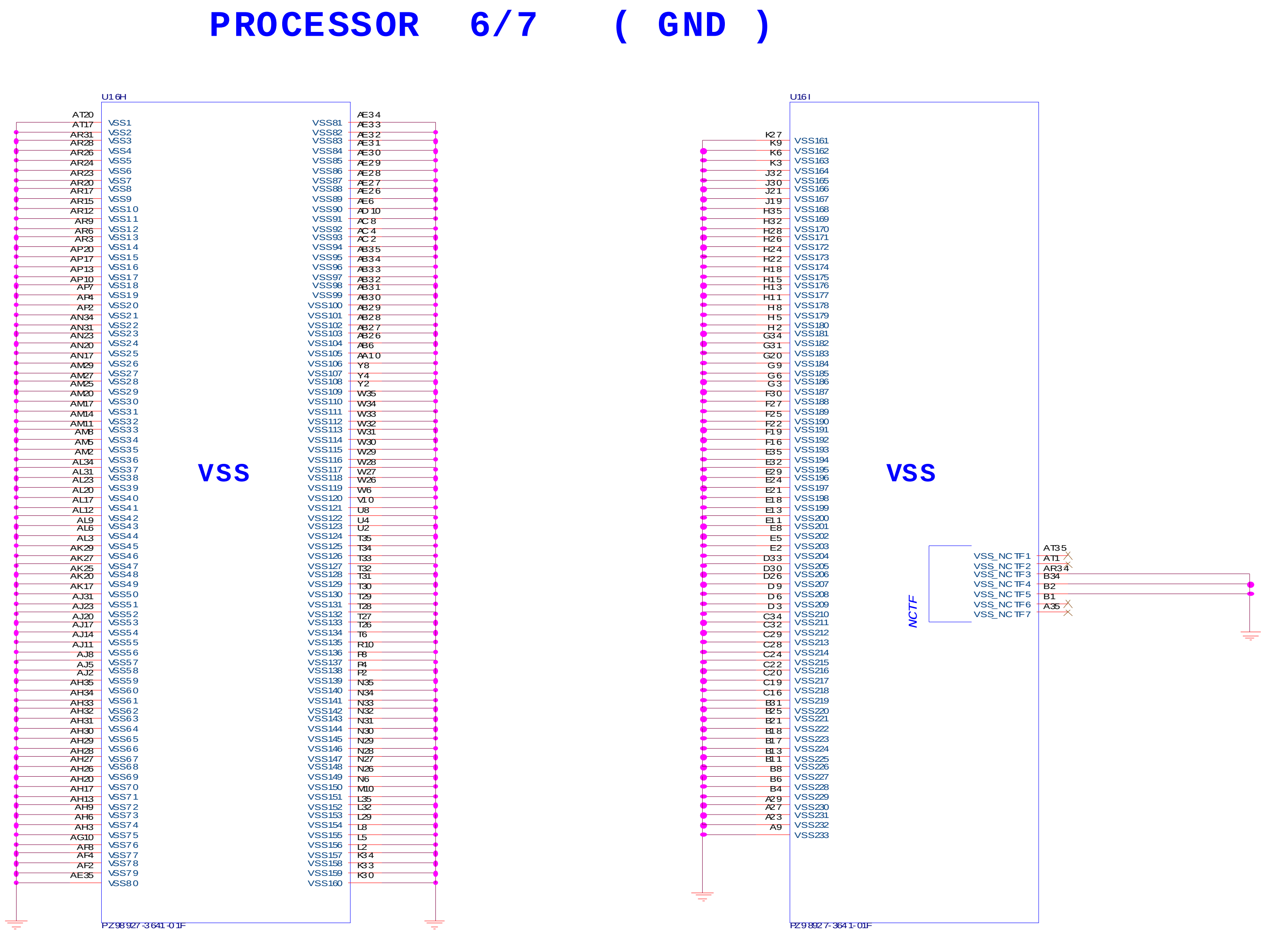
B.Schematic Diagrams

CPU 5/7 (Graphics Power)

Sheet 7 of 42
CPU 5/7
(Graphics Power)



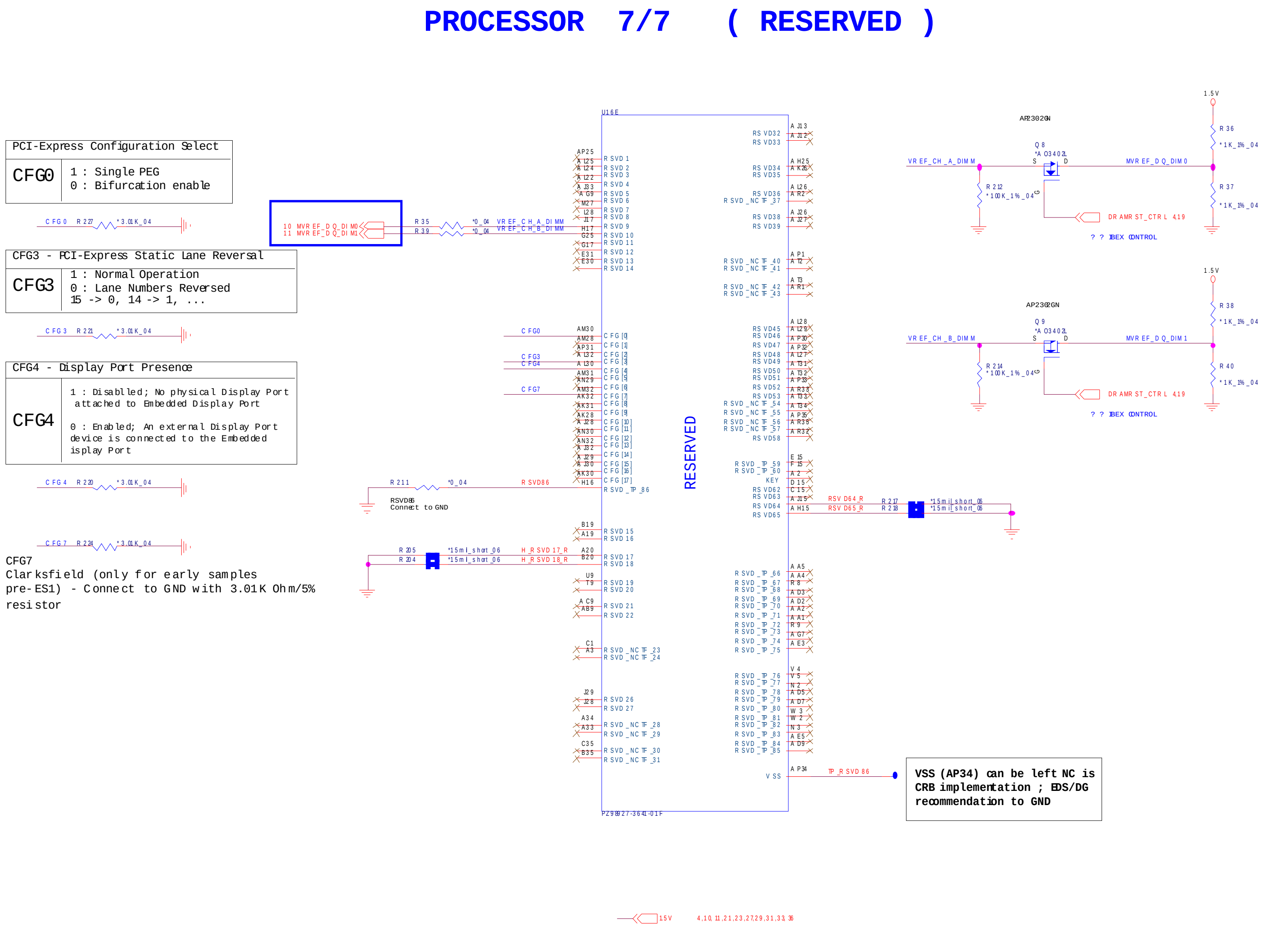
CPU 6/7 (GND)



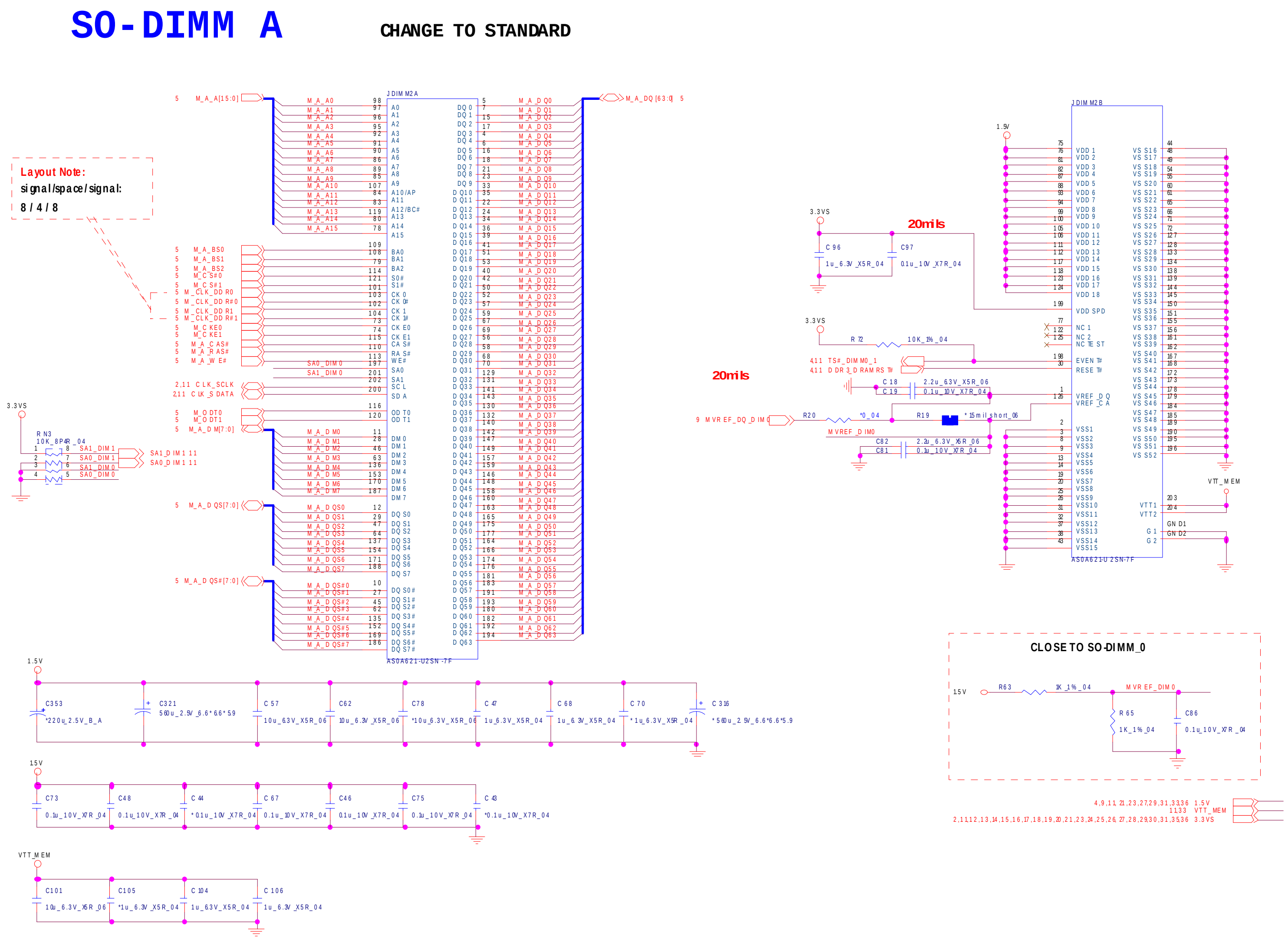
Sheet 8 of 42
CPU 6/7 (GND)

CPU 7/7 (RESERVED)

Sheet 9 of 42
CPU 7/7
(RESERVED)

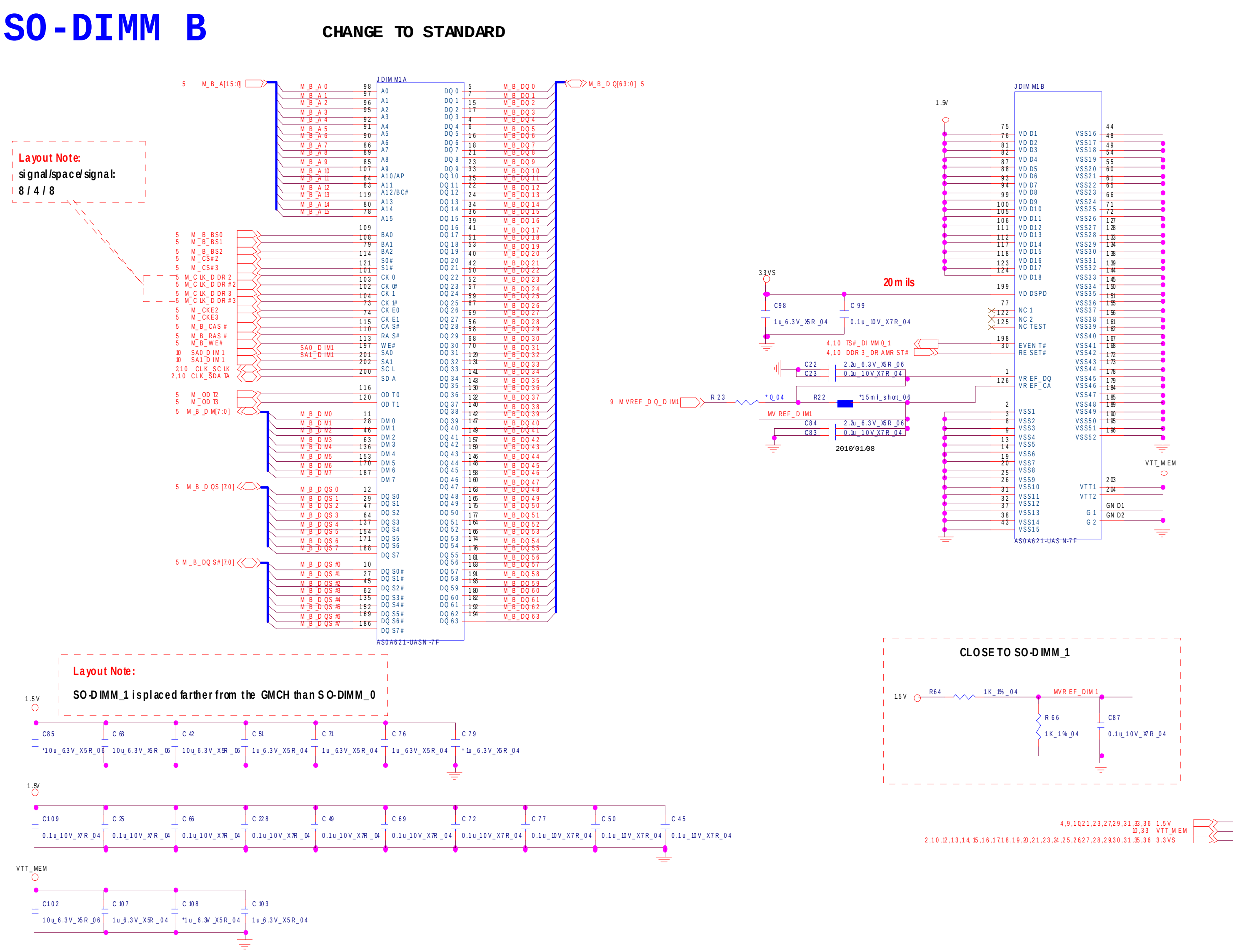


DDR3 SO-DIMM_0



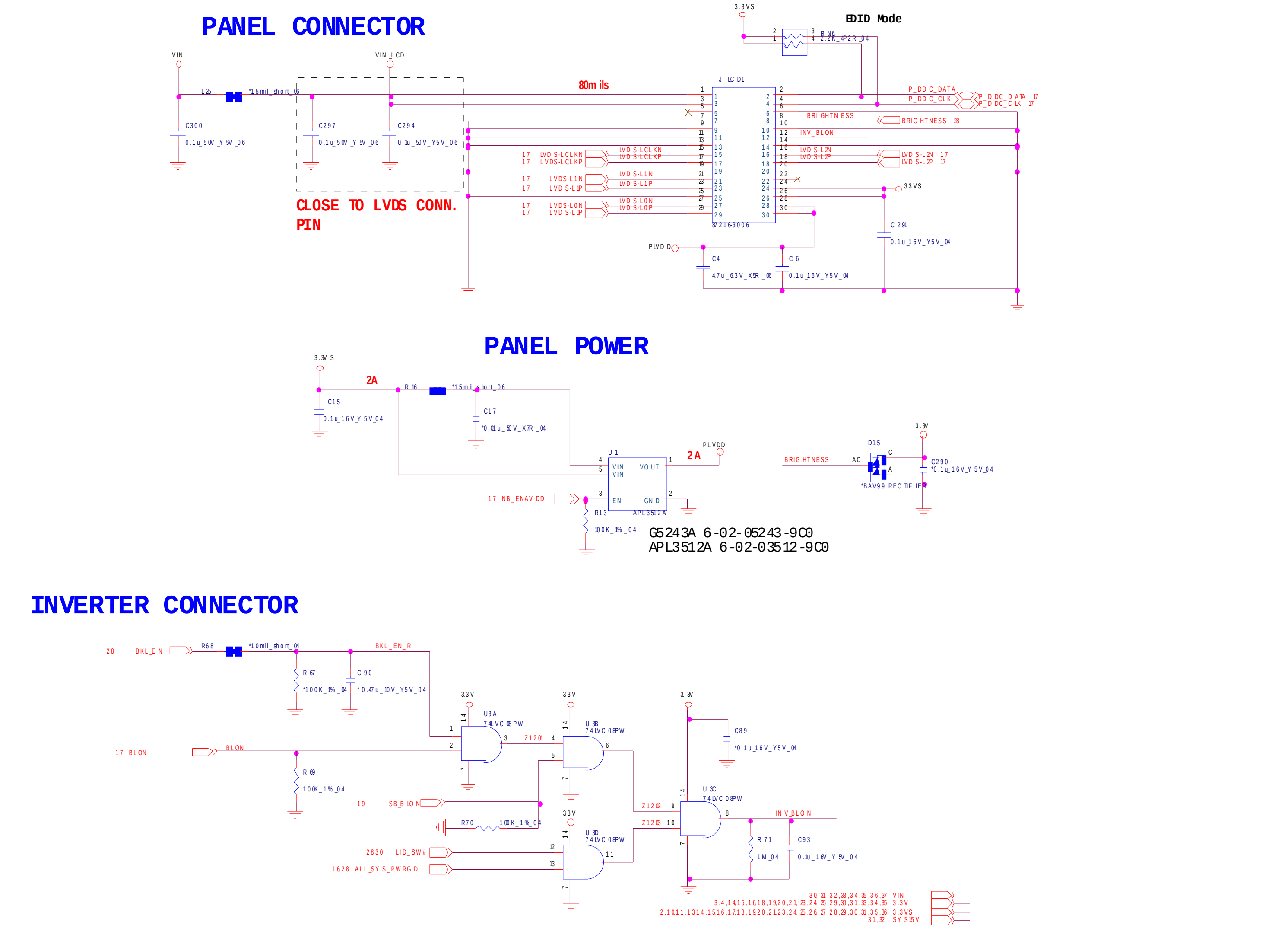
Sheet 10 of 42
DDR3 SO-DIMM_0

DDR3 SO-DIMM_1



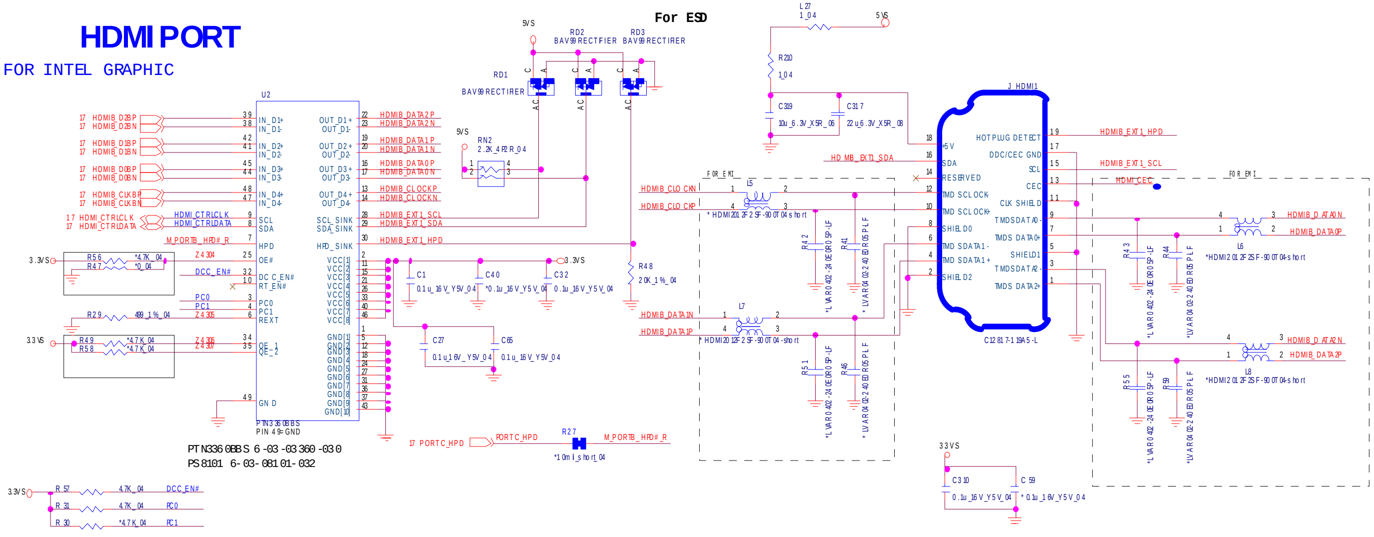
Sheet 11 of 42
DDR3 SO-DIMM_1

LVDS, Inverter

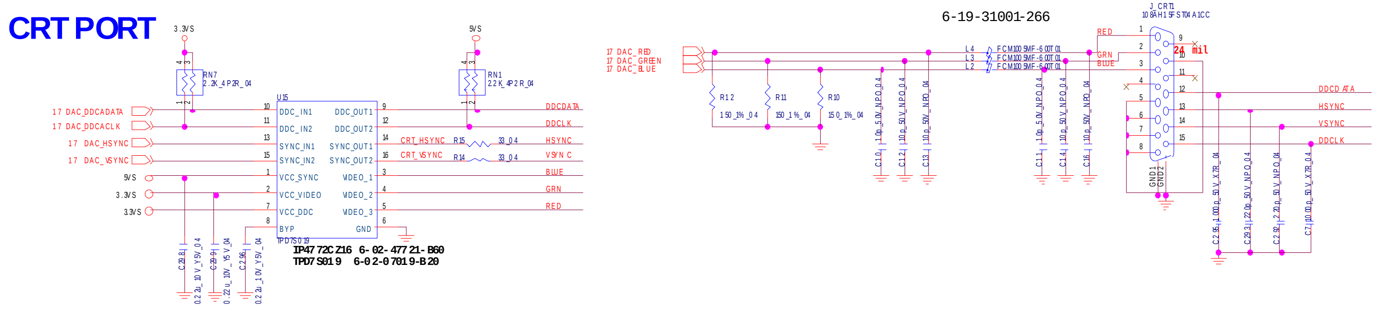


Sheet 12 of 42
LVDS, Inverter

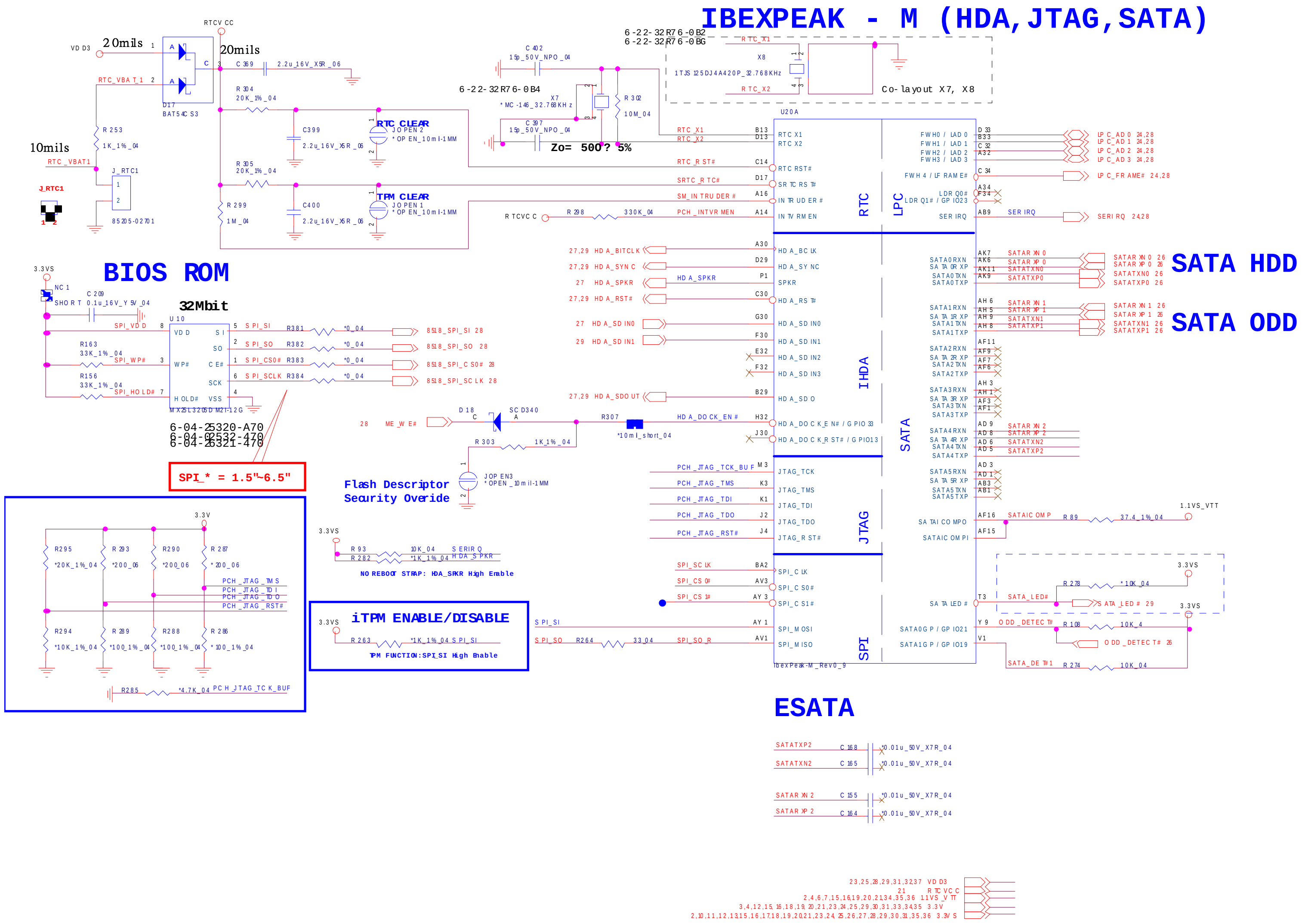
HDMI, CRT



Sheet 13 of 42
HDMI, CRT



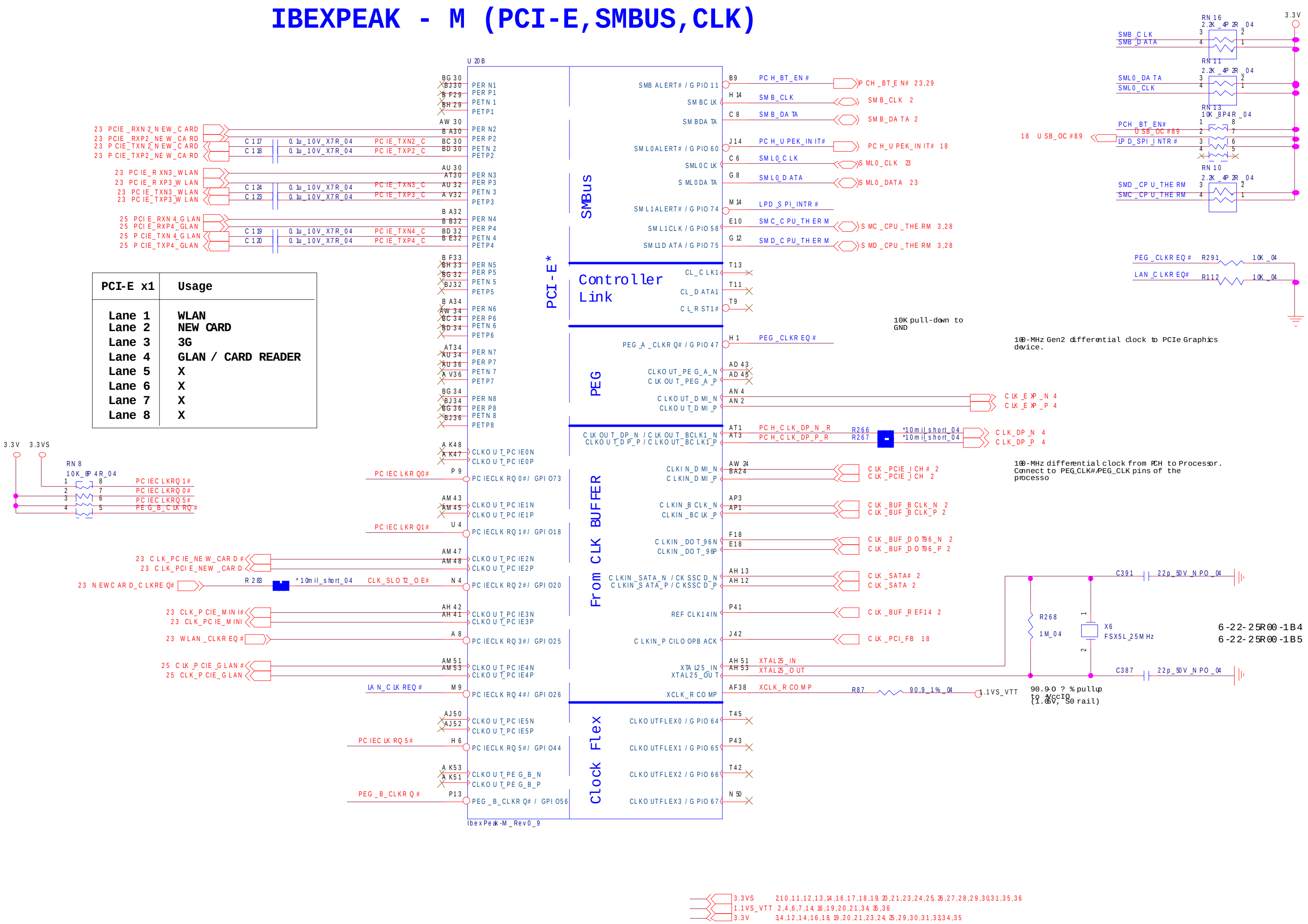
IBEXPEAK- M 1/9



Sheet 14 of 42
IBEXPEAK - M 1/9

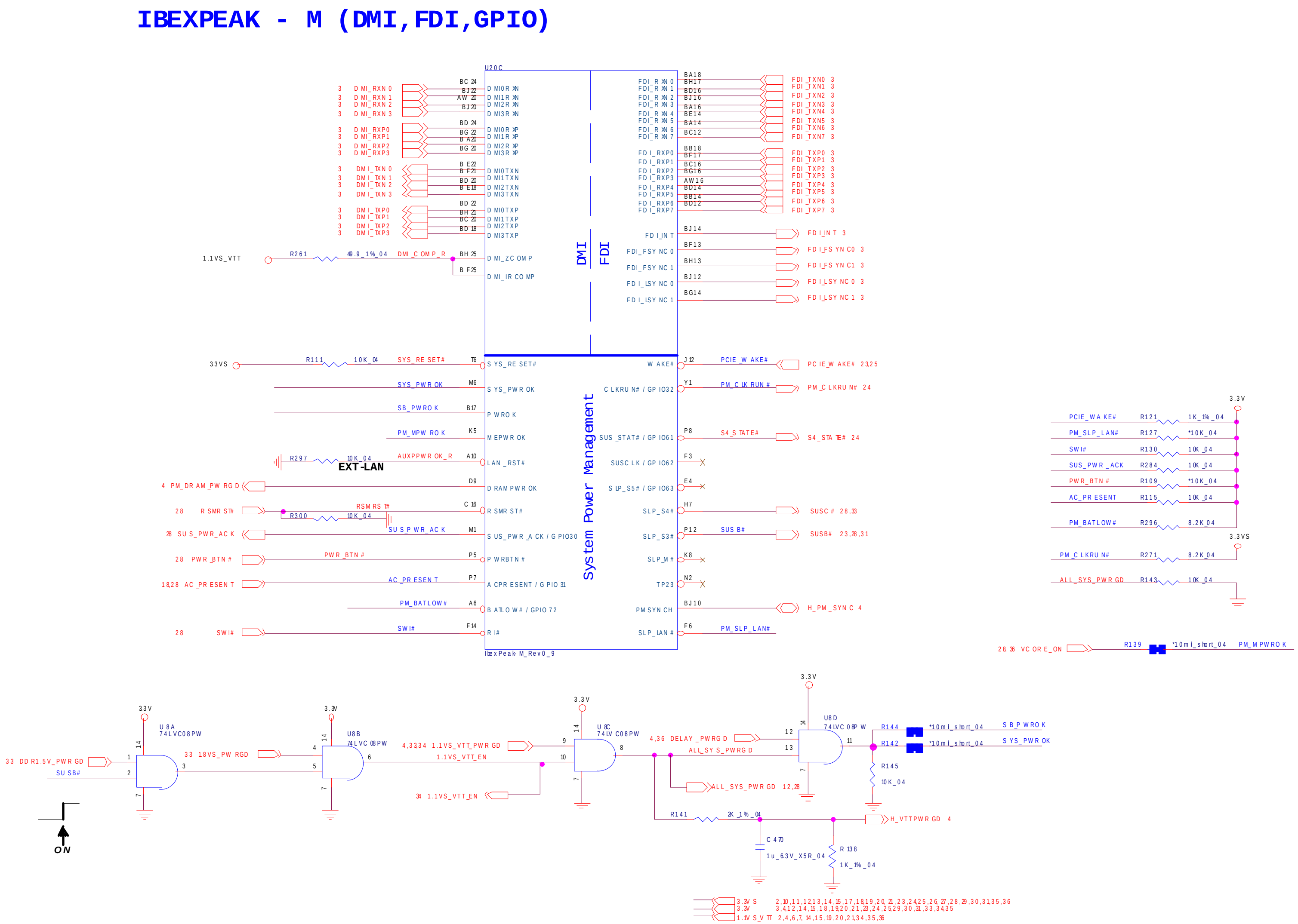
IBEXPEAK - M 2/9

Sheet 15 of 42
IBEXPEAK - M 2/9



PCI-E x1	Usage
Lane 1	WLAN
Lane 2	NEW CARD
Lane 3	3G
Lane 4	GLAN / CARD READER
Lane 5	X
Lane 6	X
Lane 7	X
Lane 8	X

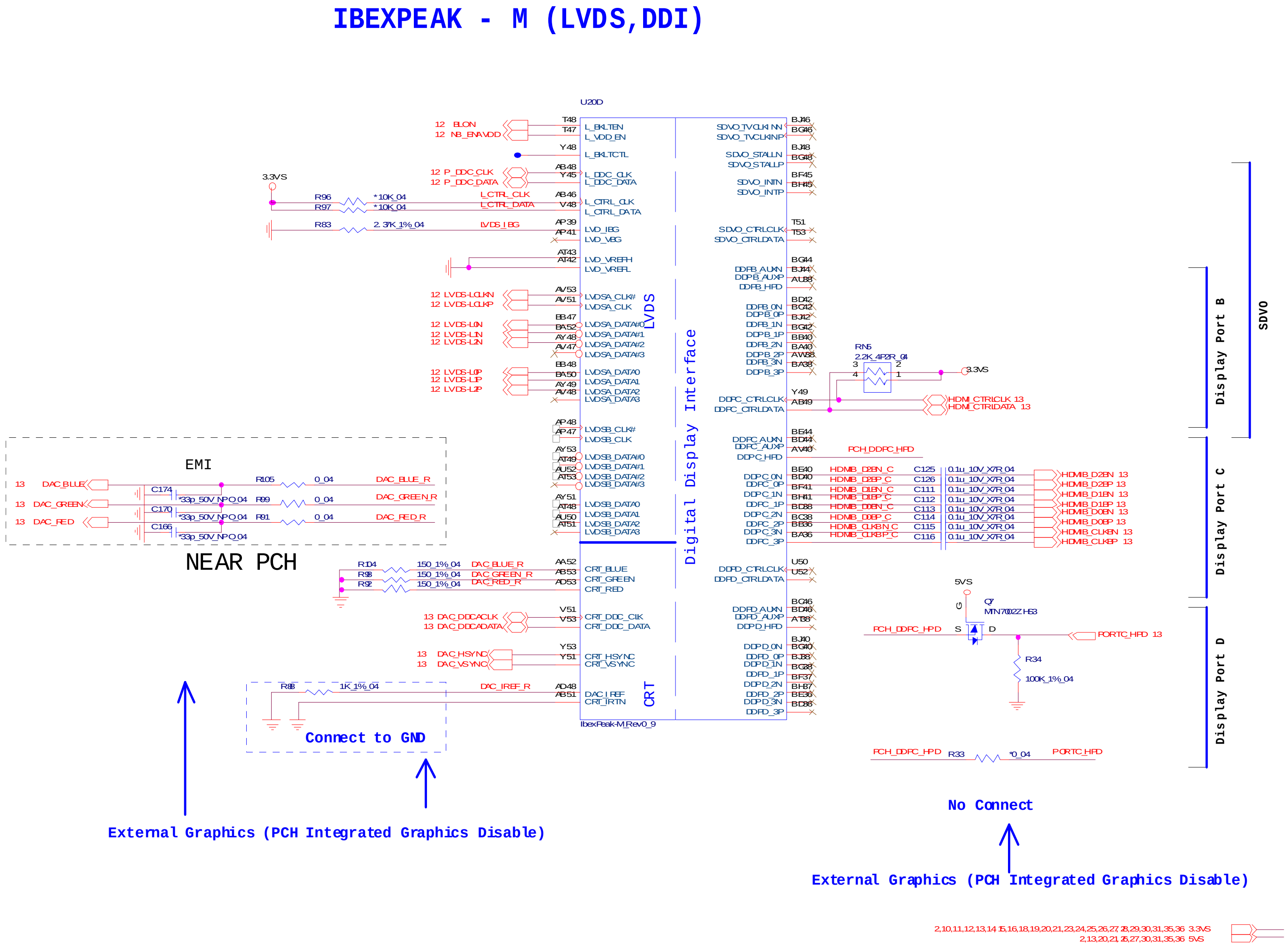
IBEXPEAK - M 3/9



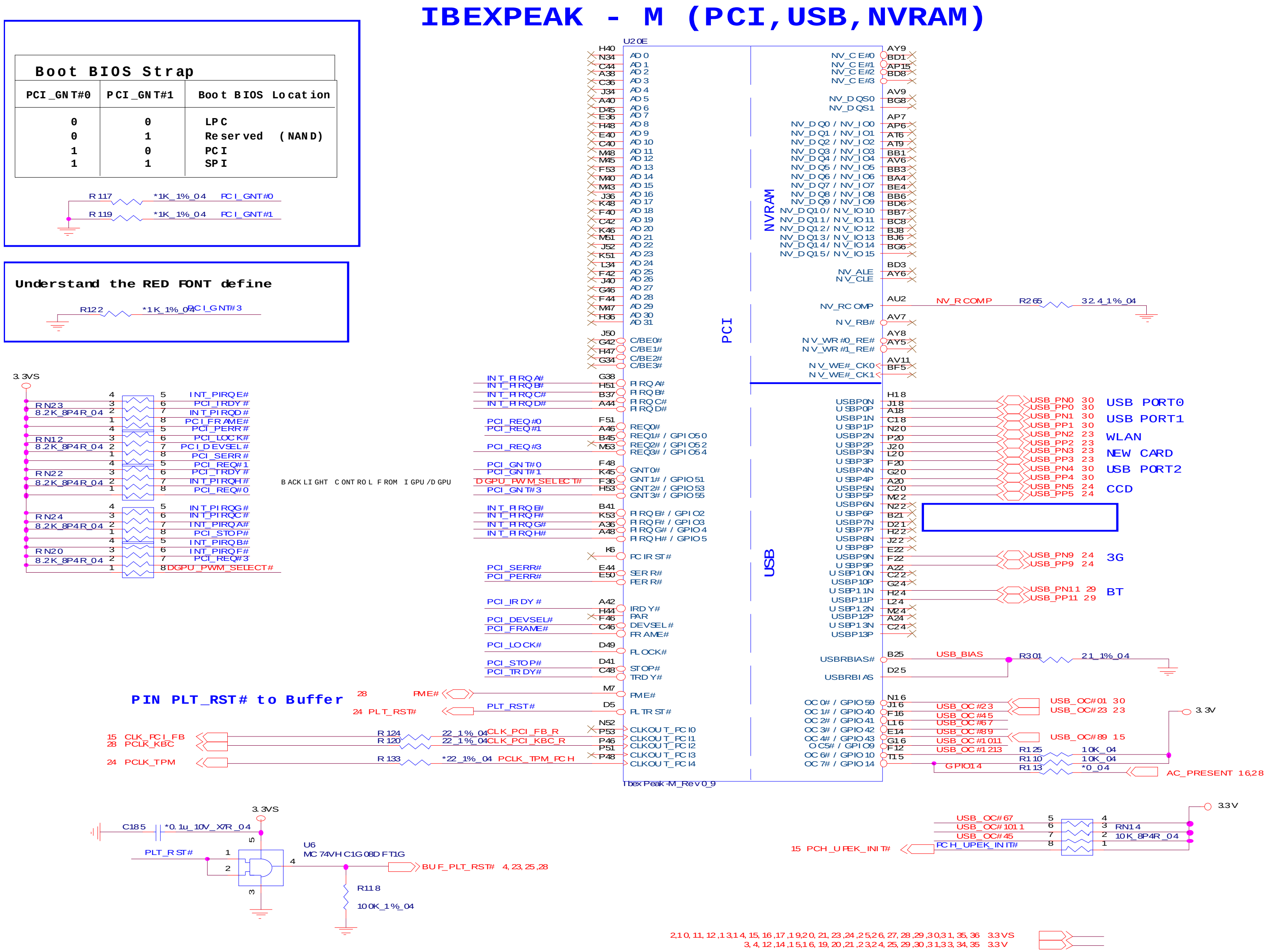
Sheet 16 of 42
IBEXPEAK - M 3/9

IBEXPEAK - M 4/9

Sheet 17 of 42
IBEXPEAK - M 4/9



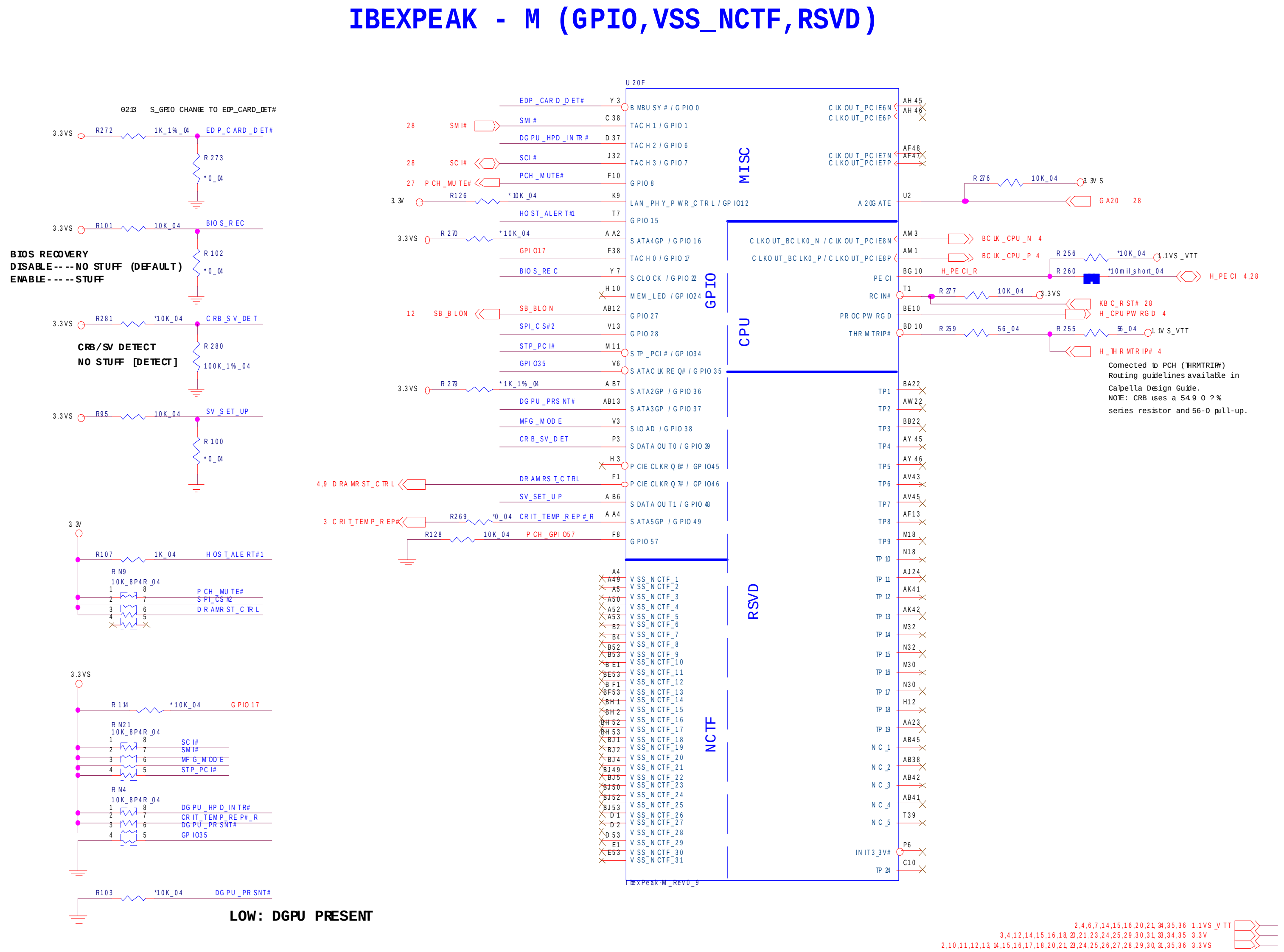
IBEXPEAK - M 5/9



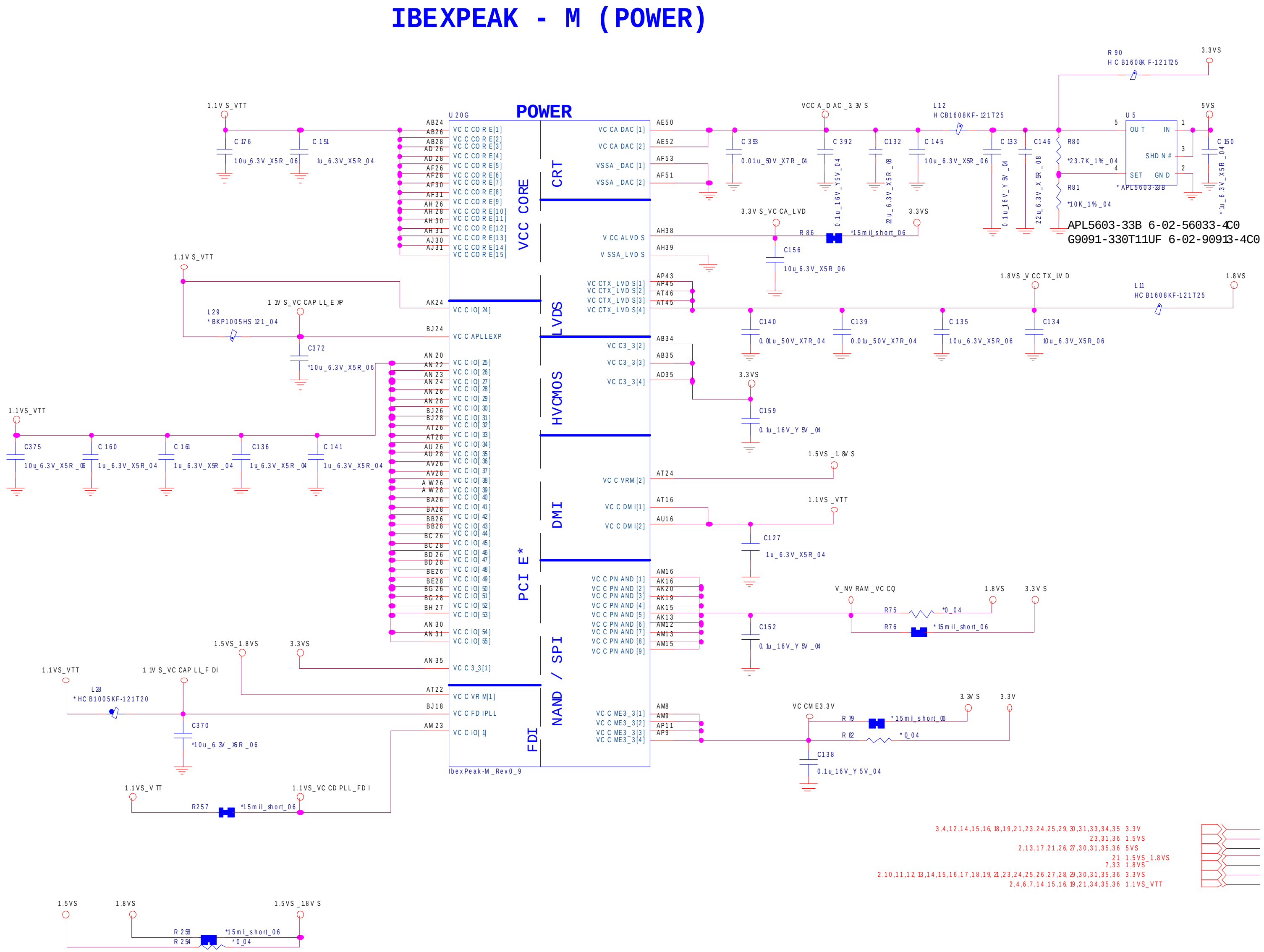
Sheet 18 of 42
IBEXPEAK - M 5/9

IBEXPEAK - M 6/9

Sheet 19 of 42
IBEXPEAK - M 6/9



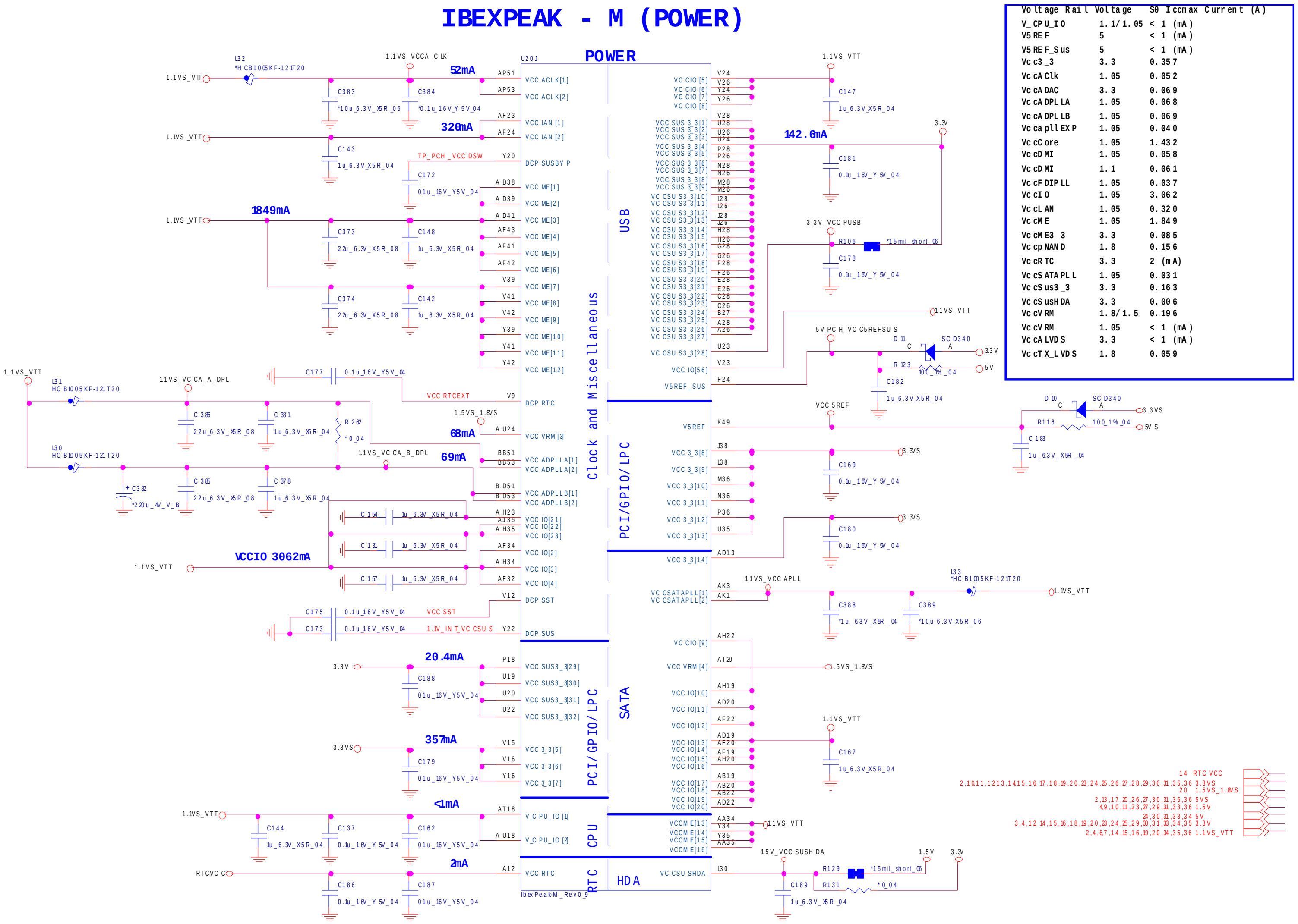
IBEXPEAK - M 7/9



Sheet 20 of 42
IBEXPEAK - M 7/9

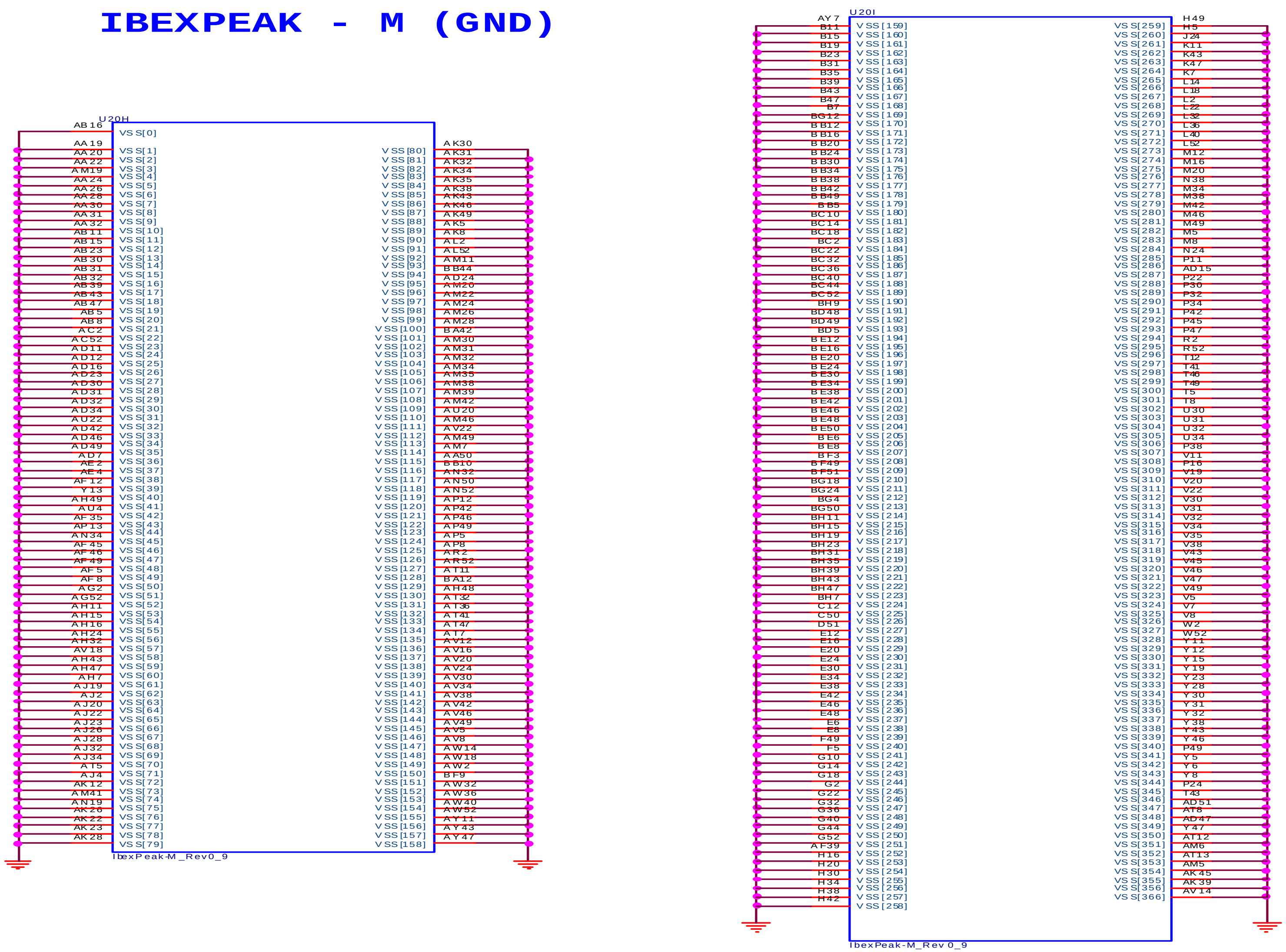
IBEXPEAK - M 8/9

Sheet 21 of 42
IBEXPEAK - M 8/9



Voltage Rail	Voltage	S0 Iccmax Current (A)
V_CPU_IO	1.1/1.05	< 1 (mA)
V5REF	5	< 1 (mA)
V5REF_Sus	5	< 1 (mA)
Vcc3_3	3.3	0.357
VccACLK	1.05	0.052
VccADAC	3.3	0.069
VccADPLLA	1.05	0.068
VccADPLLB	1.05	0.069
VccapllEXP	1.05	0.040
VccCore	1.05	1.432
VccDMI	1.05	0.058
VccDMI	1.1	0.061
VccFDIPLL	1.05	0.037
VccIO	1.05	3.062
VccLAN	1.05	0.320
VccME	1.05	1.849
VccME3_3	3.3	0.085
VccpNAND	1.8	0.156
VccRTC	3.3	2 (mA)
VccSATAPLL	1.05	0.031
VccSus3_3	3.3	0.163
VccSusHDA	3.3	0.006
VccVRM	1.8/1.5	0.196
VccVRM	1.05	< 1 (mA)
VccALVDS	3.3	< 1 (mA)
VccTX_LVDS	1.8	0.059

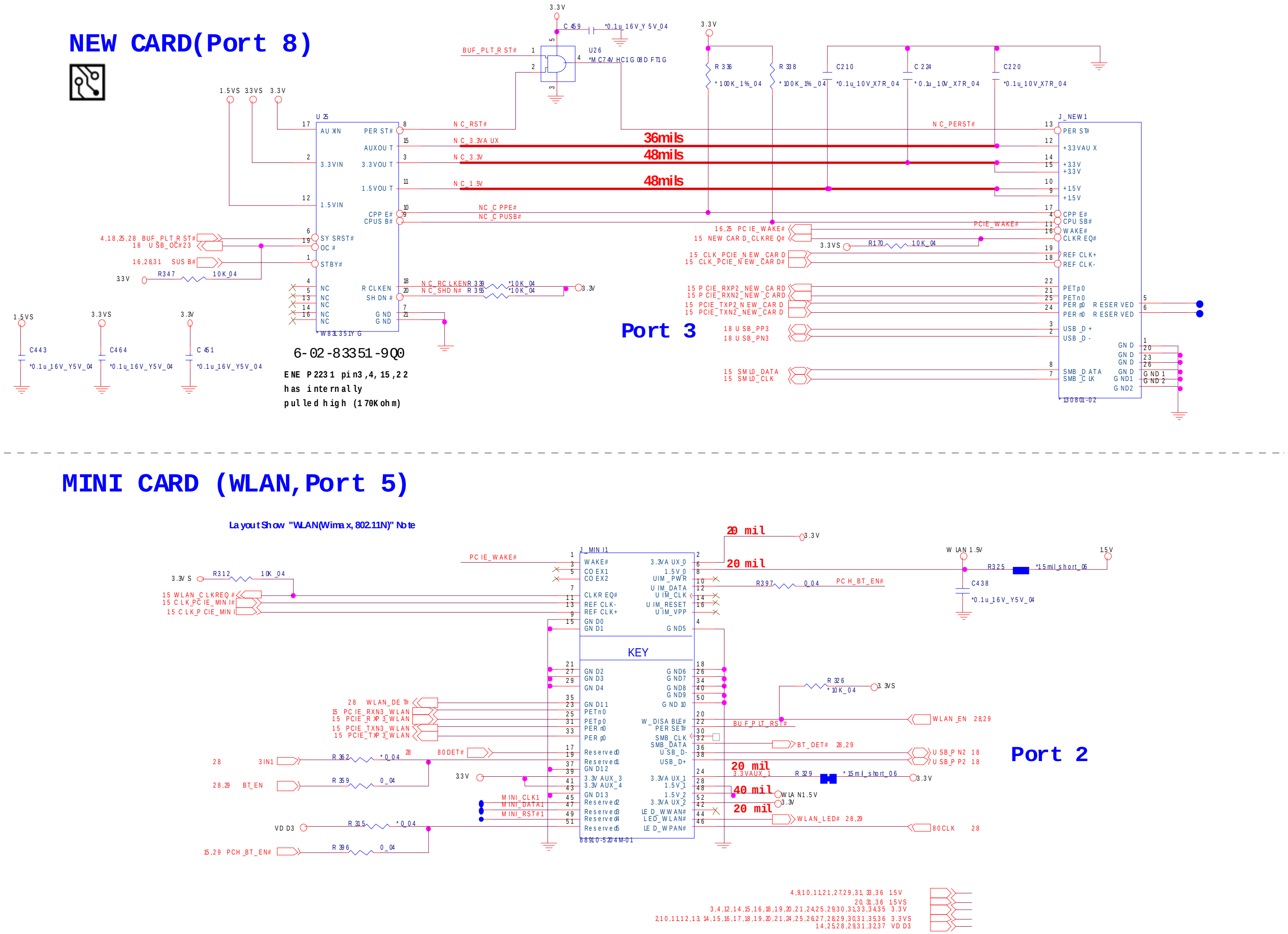
IBEXPEAK - M 9/9



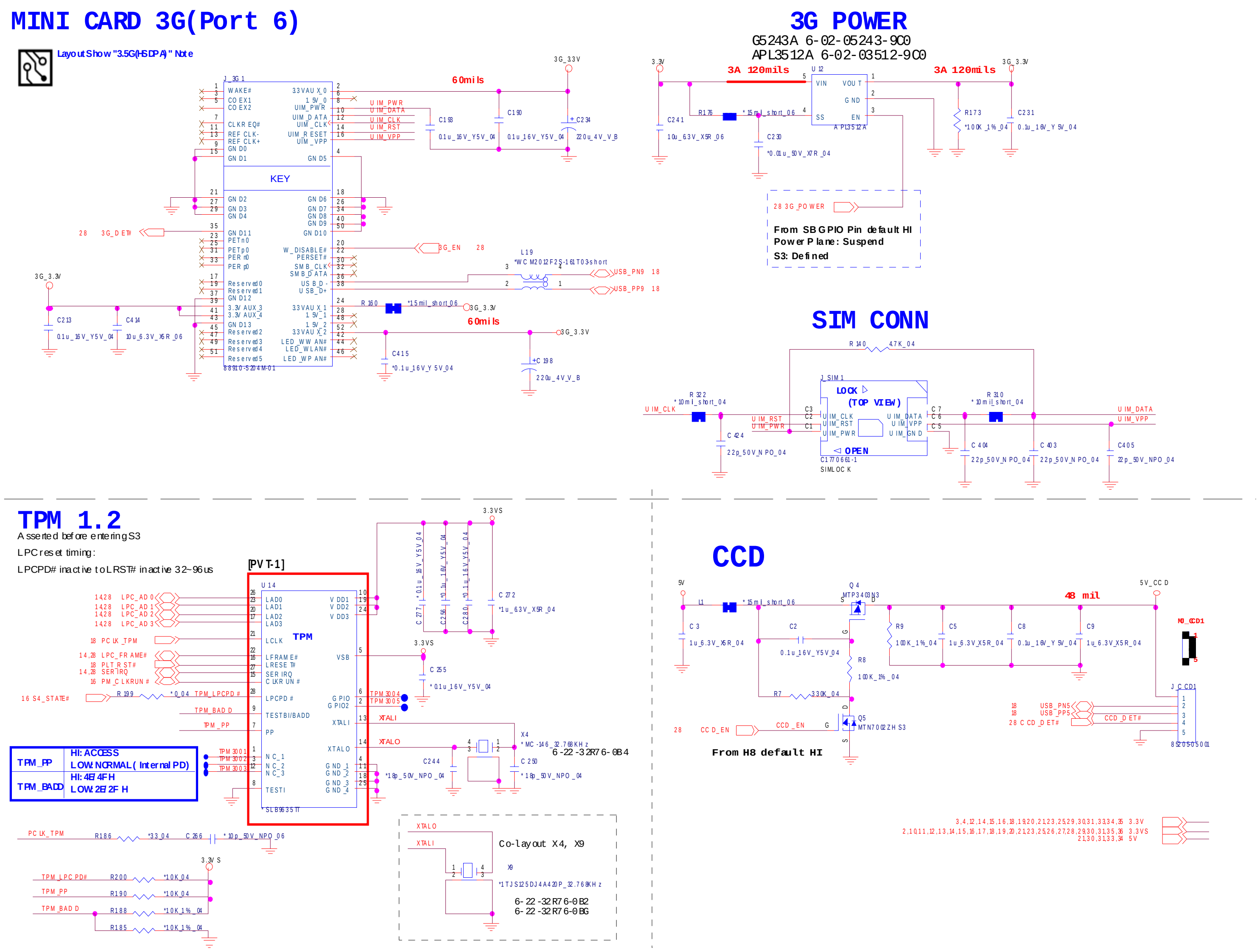
Sheet 22 of 42
IBEXPEAK - M 9/9

New Card, Mini PCIE

Sheet 23 of 42
New Card, Mini PCIE

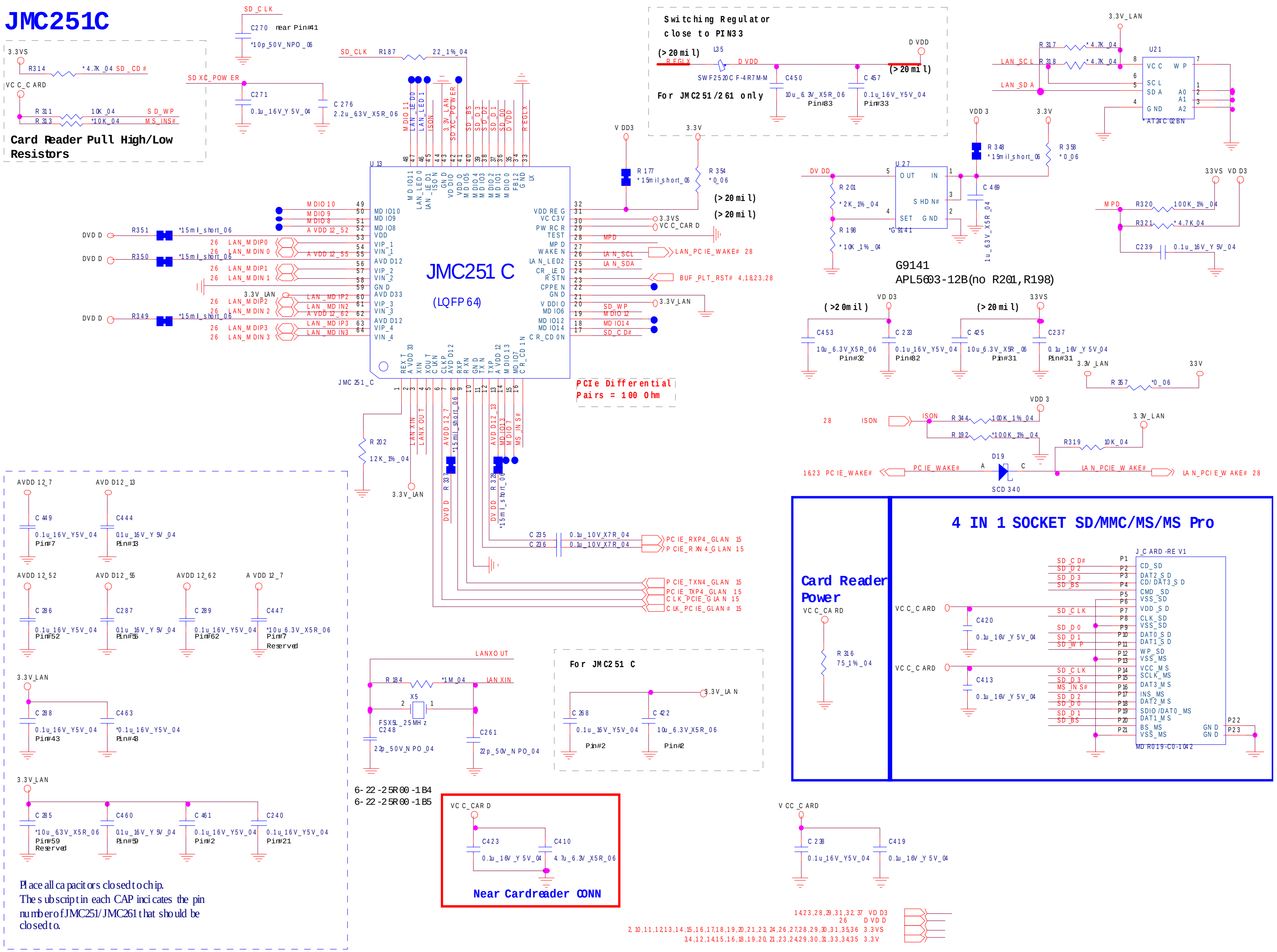


3G, CCD, TPM



Sheet 24 of 42
3G, CCD, TPM

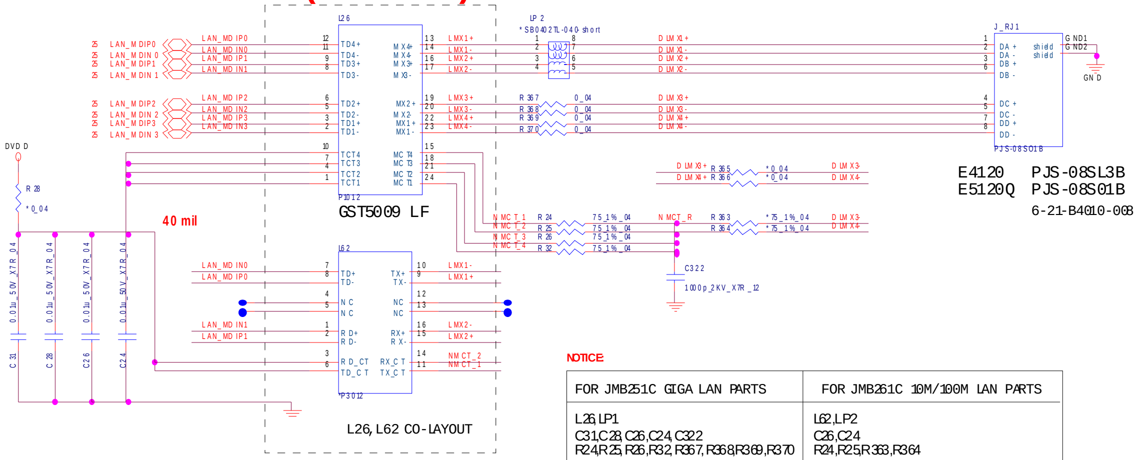
Card Reader/LAN JMB251C



Sheet 25 of 42
Card Reader/LAN
JMB251C

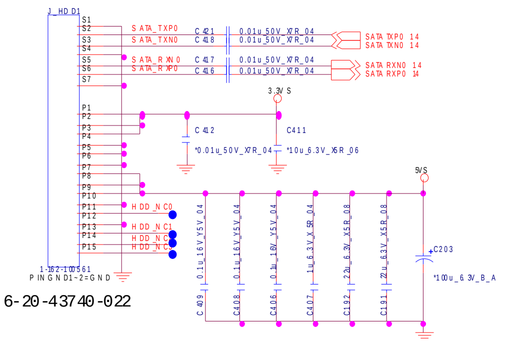
LAN (JMC251C), SATA HDD, ODD

GIGA LAN (JMC251C)

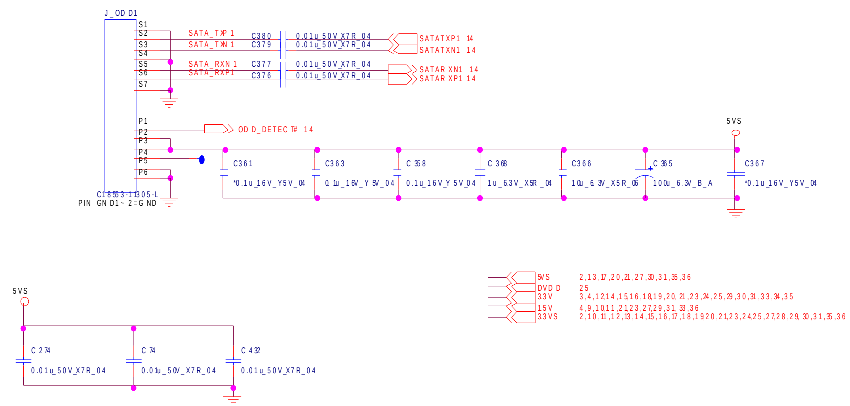


FOR JMB251C GIGA LAN PARTS	FOR JMB261C 10M/100M LAN PARTS
L26,LP1 C31,C28,C26,C24,C322 R24,R25,R26,R32,R367,R368,R369,R370	L62,LP2 C26,C24 R24,R25,R363,R364

SATA HDD



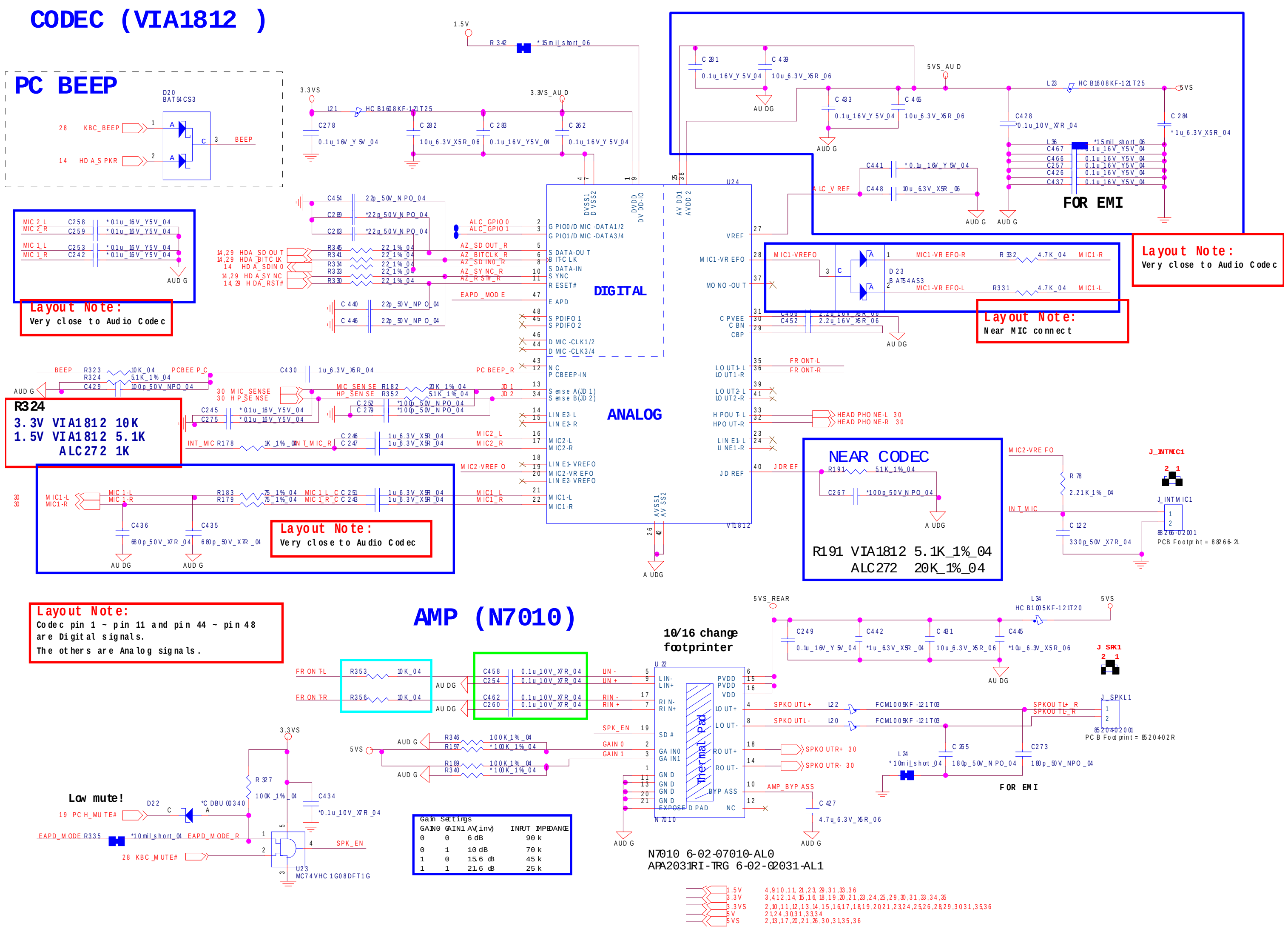
SATA ODD



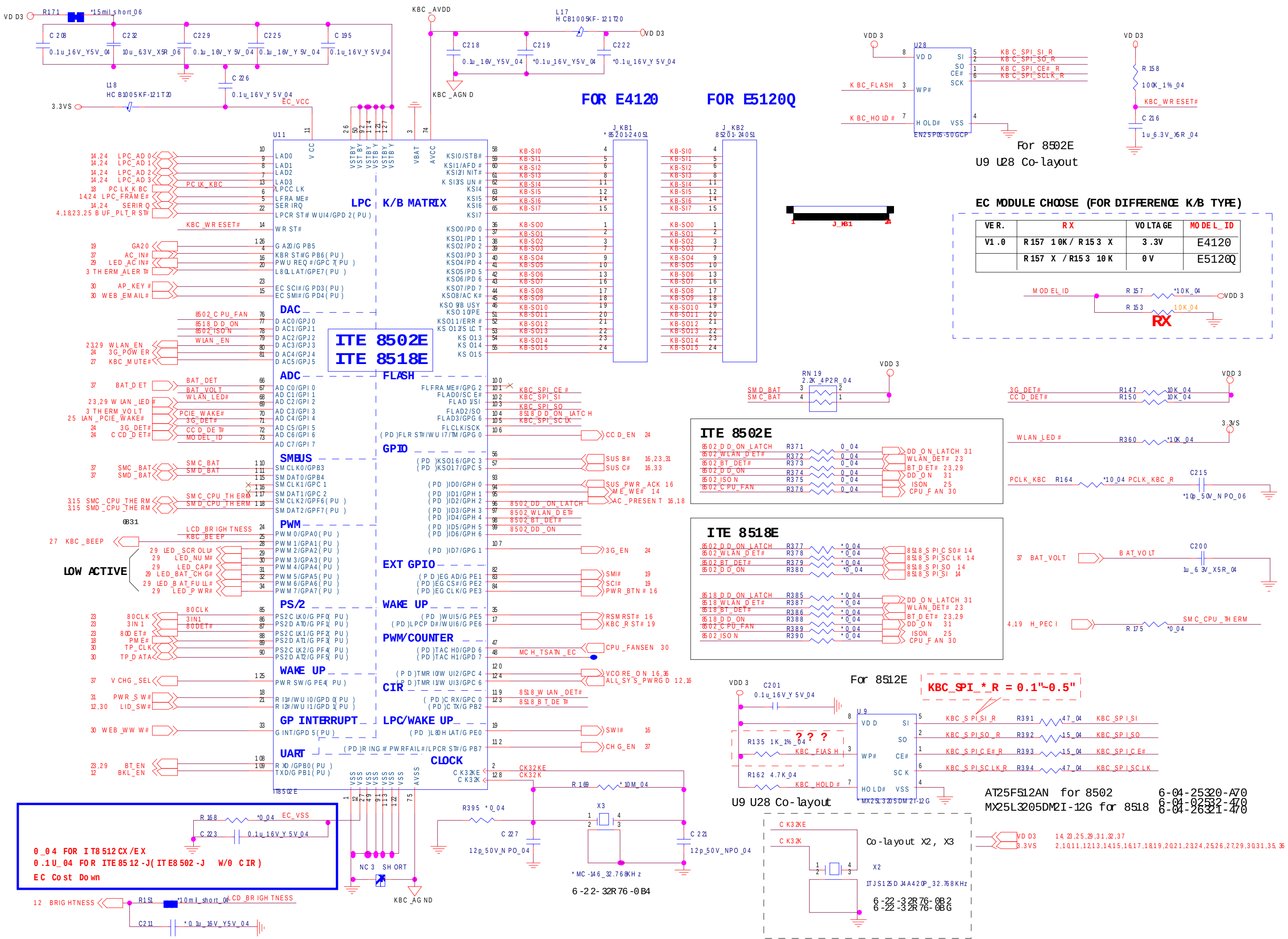
Sheet 26 of 42
LAN (JMC251C),
SATA HDD, ODD

Audio Codec VIA1812

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Audio Codec
VIA1812



KBC-ITE IT8502E

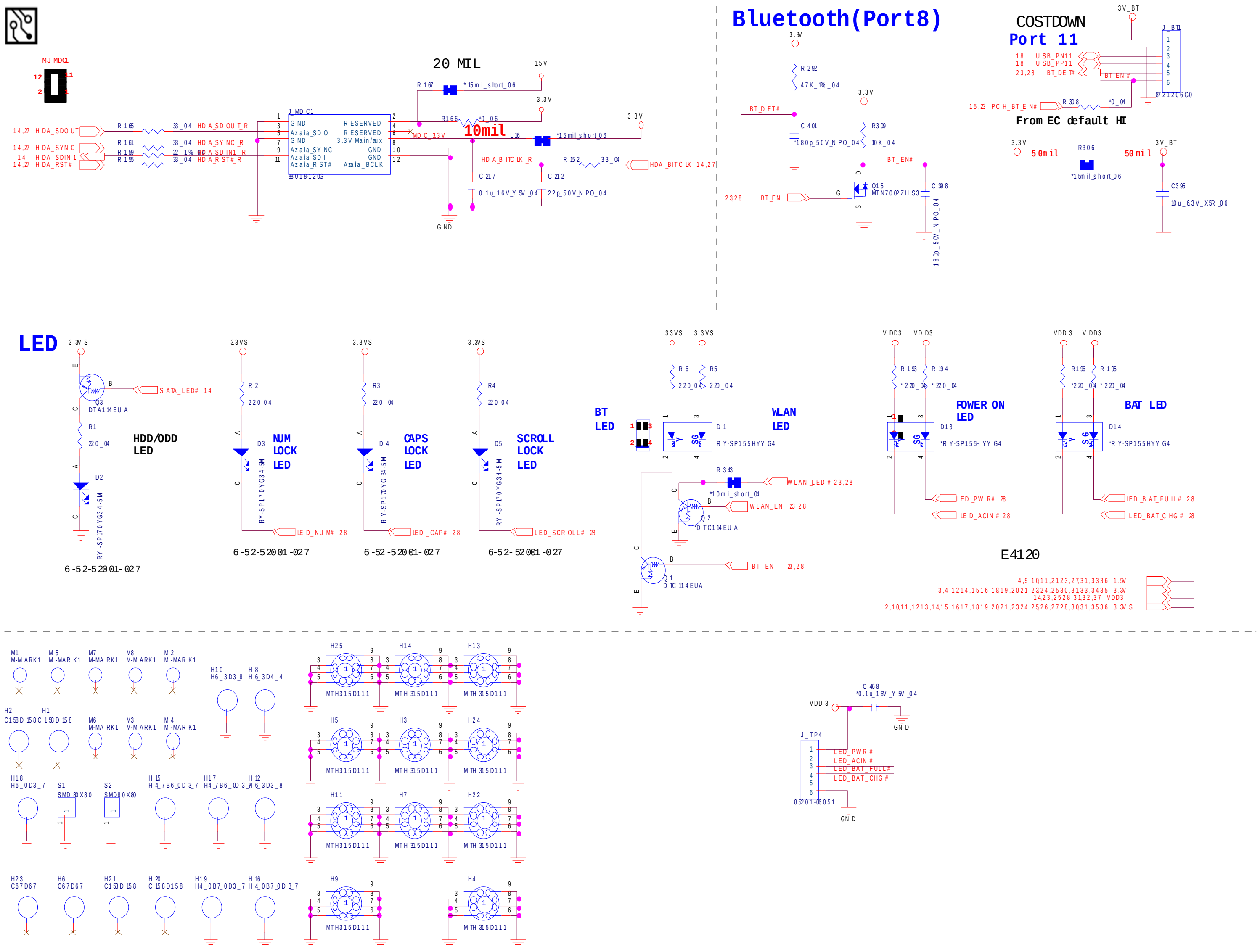


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KBC-ITE IT8502E

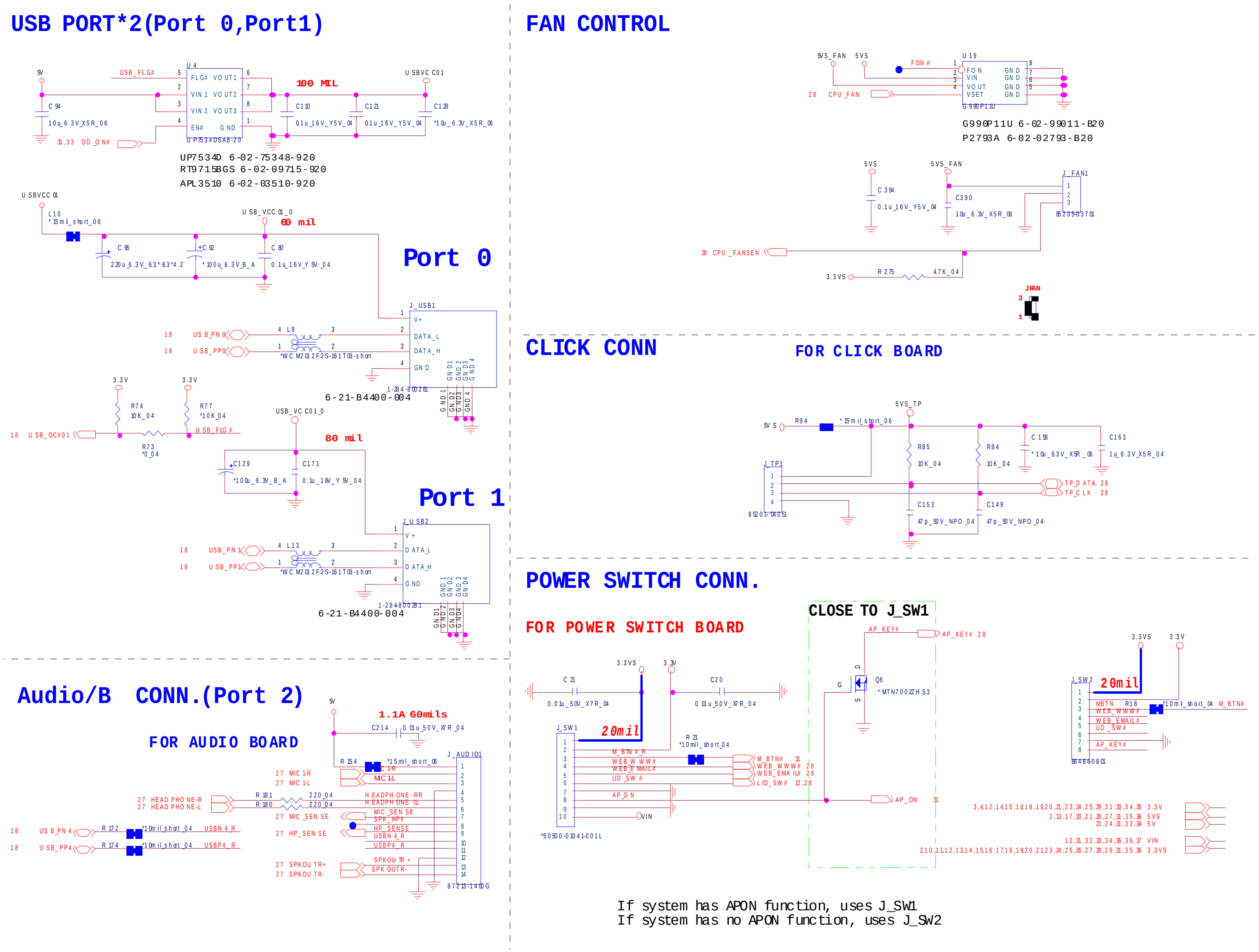
B.Schematic Diagrams

LED, MDC, BT

Sheet 29 of 42
LED, MDC, BT



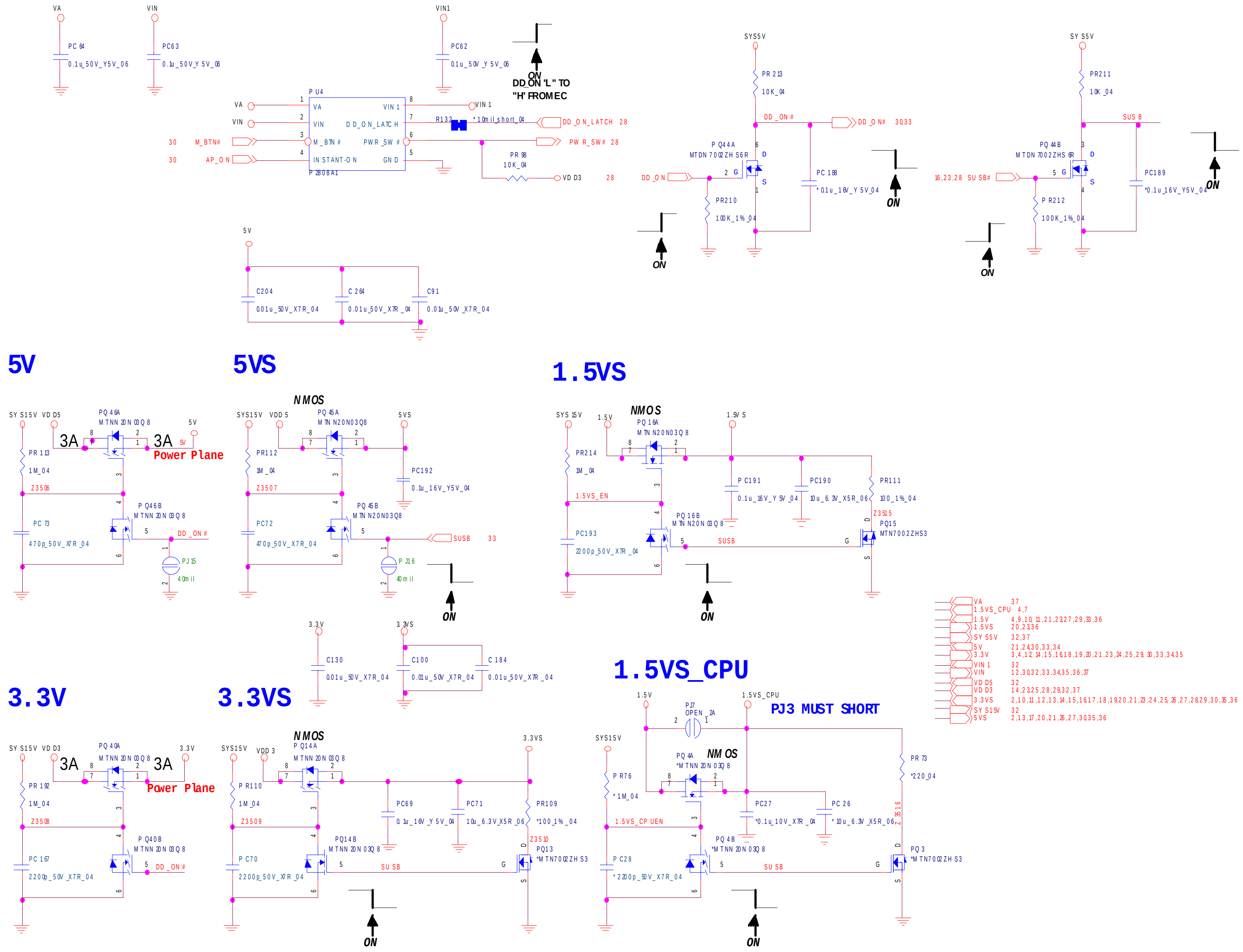
USB, Fan, TP, Multi-Conn



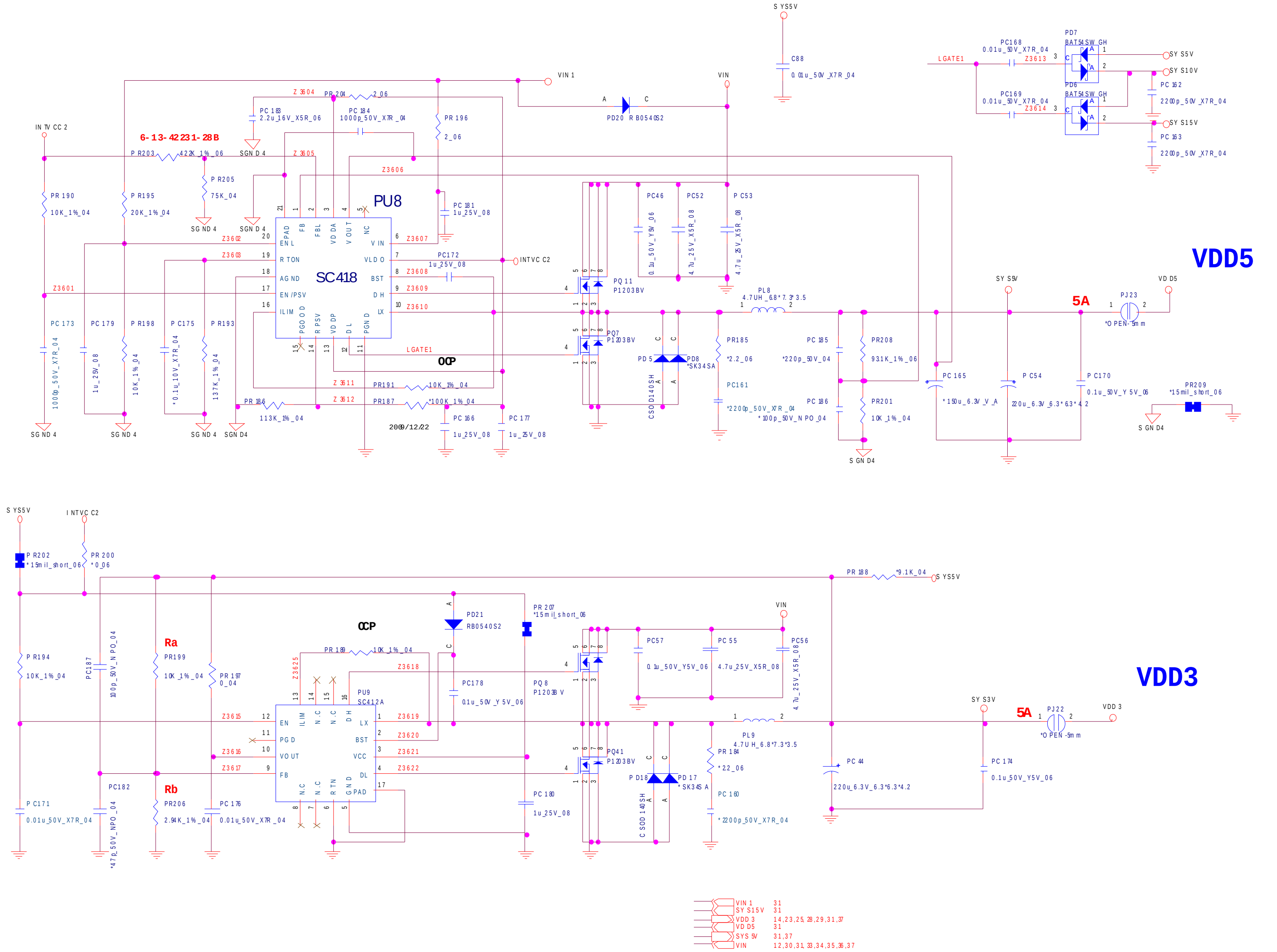
Sheet 30 of 42
USB, Fan, TP,
Multi-Conn

5VS, 3VS, 1.5VS

Sheet 31 of 42
5VS, 3VS, 1.5VS



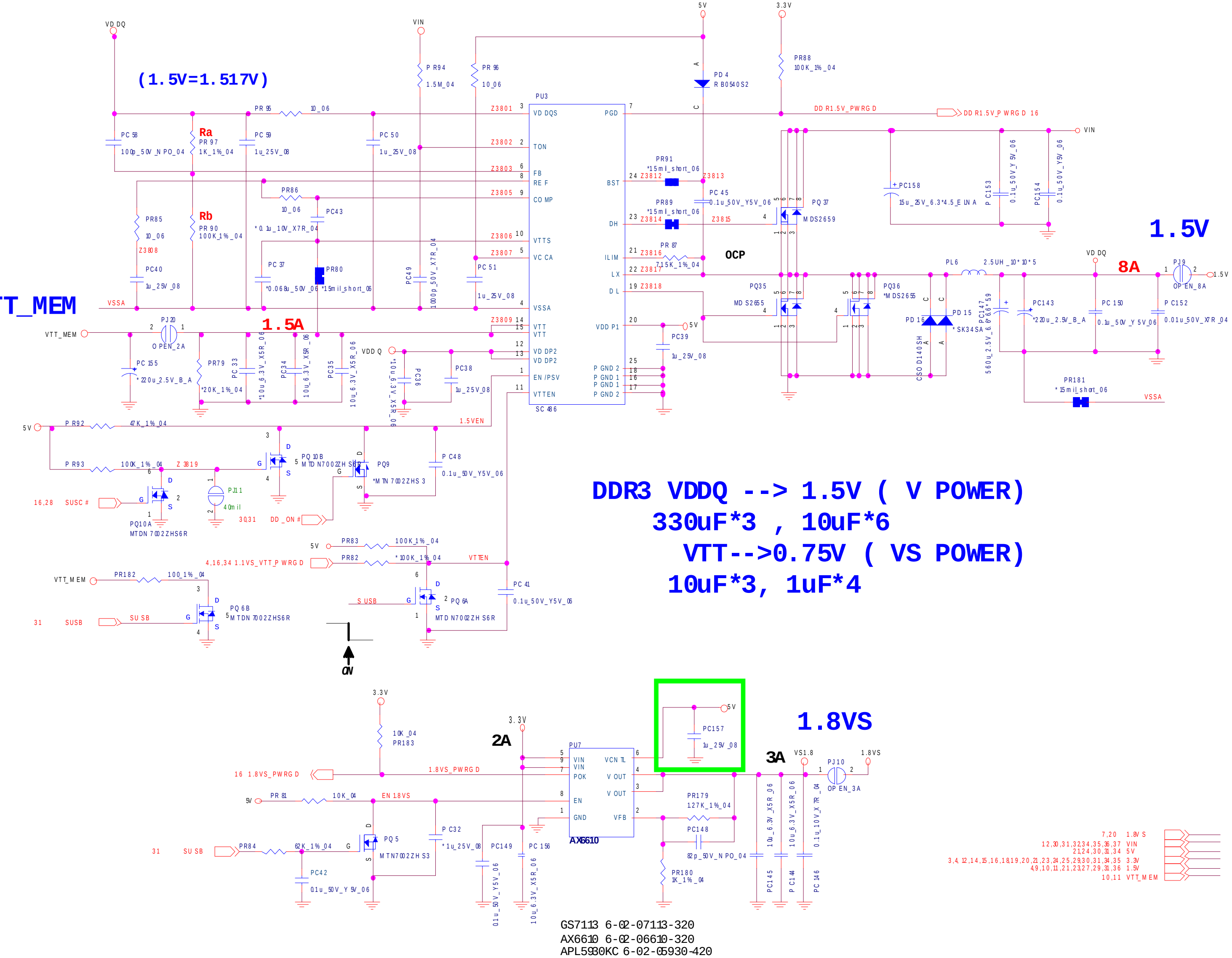
Power 3.3V/5V



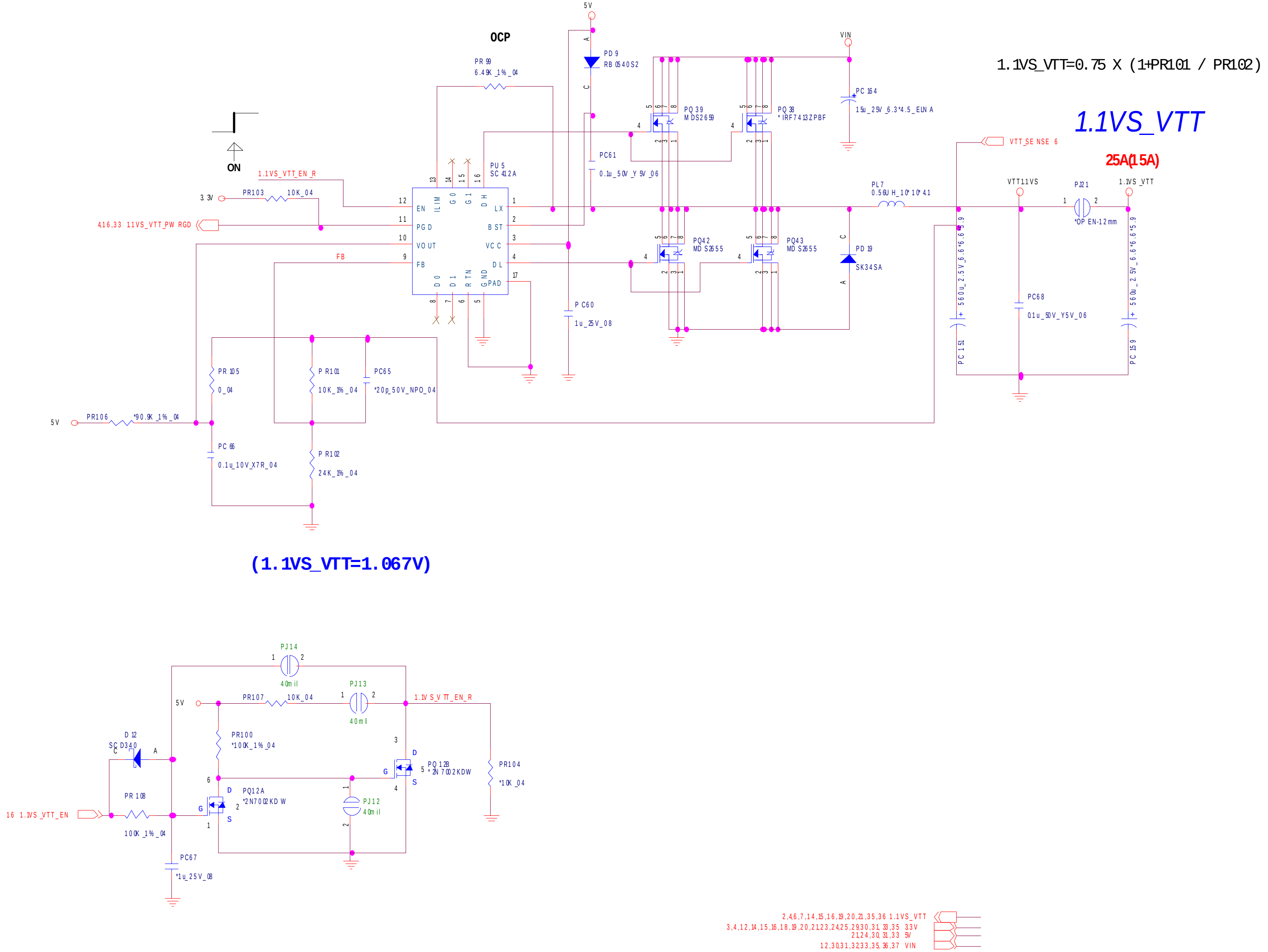
Sheet 32 of 42
Power 3.3V/5V

Power 1.5V/0.75V, 1.8VS

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Power 1.5V/0.75V,
1.8VS



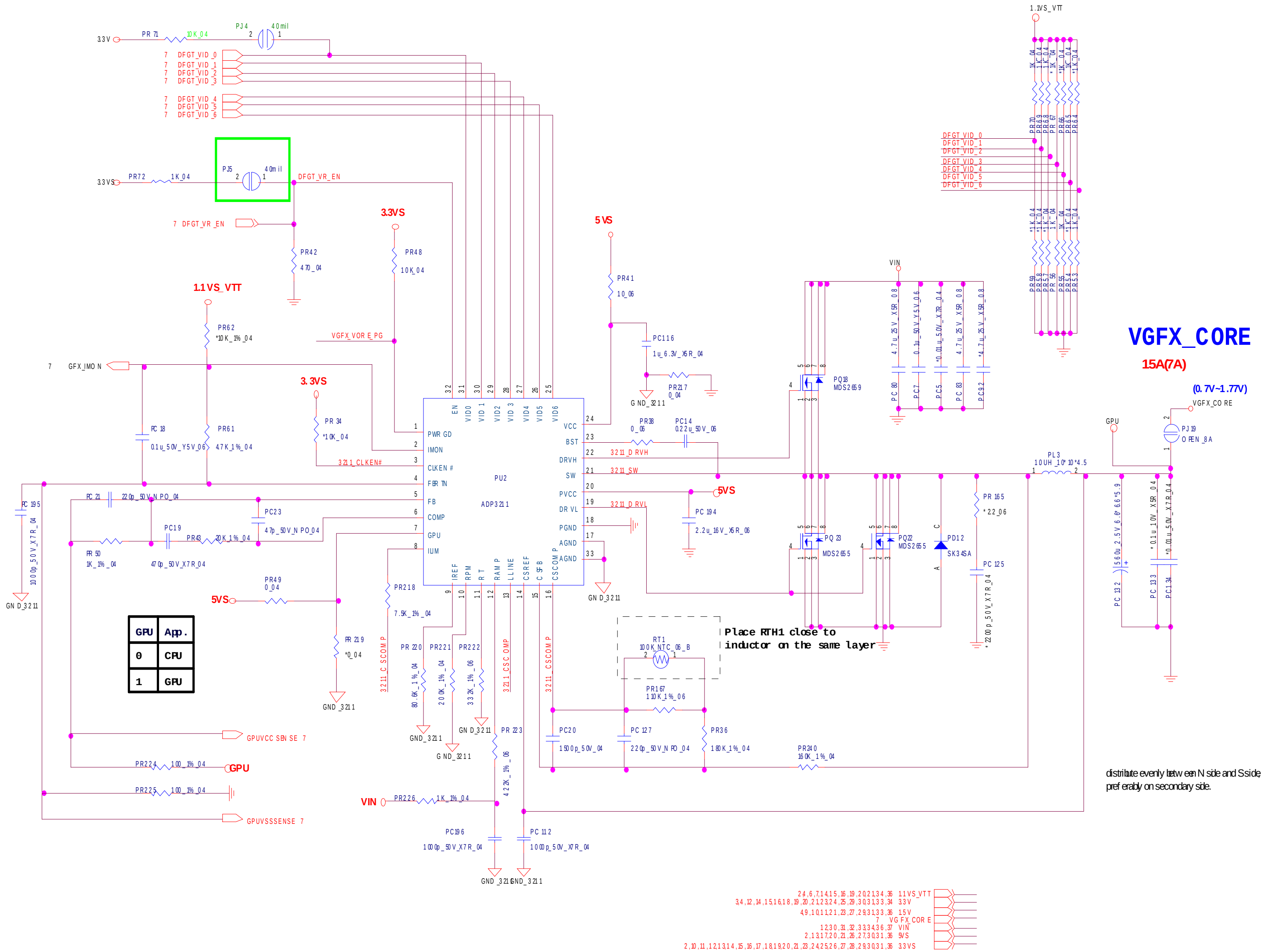
Power 1.1VS_VTT



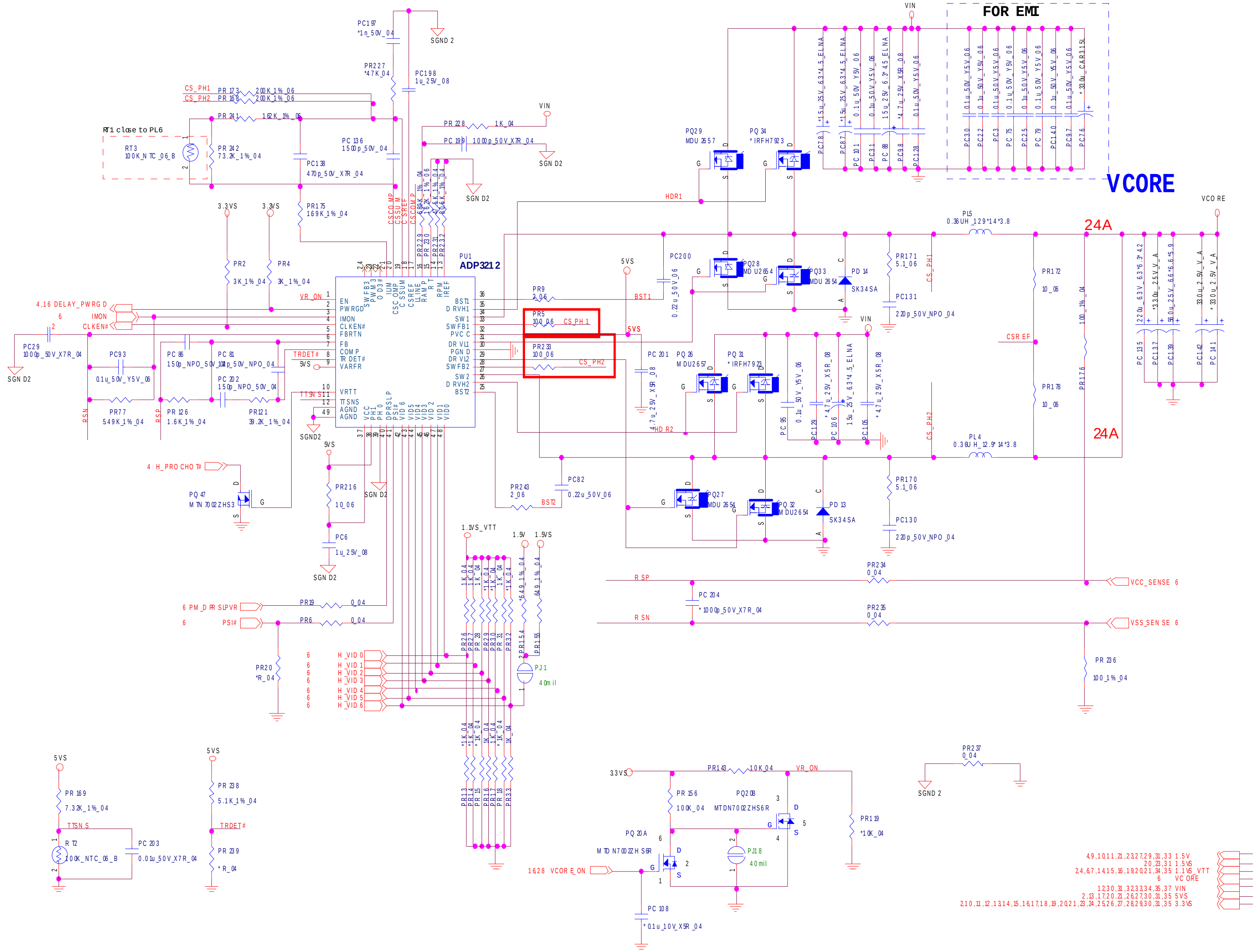
Sheet 34 of 42
Power 1.1VS_VTT

Power VGFX_Core

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Power VGFX_Core

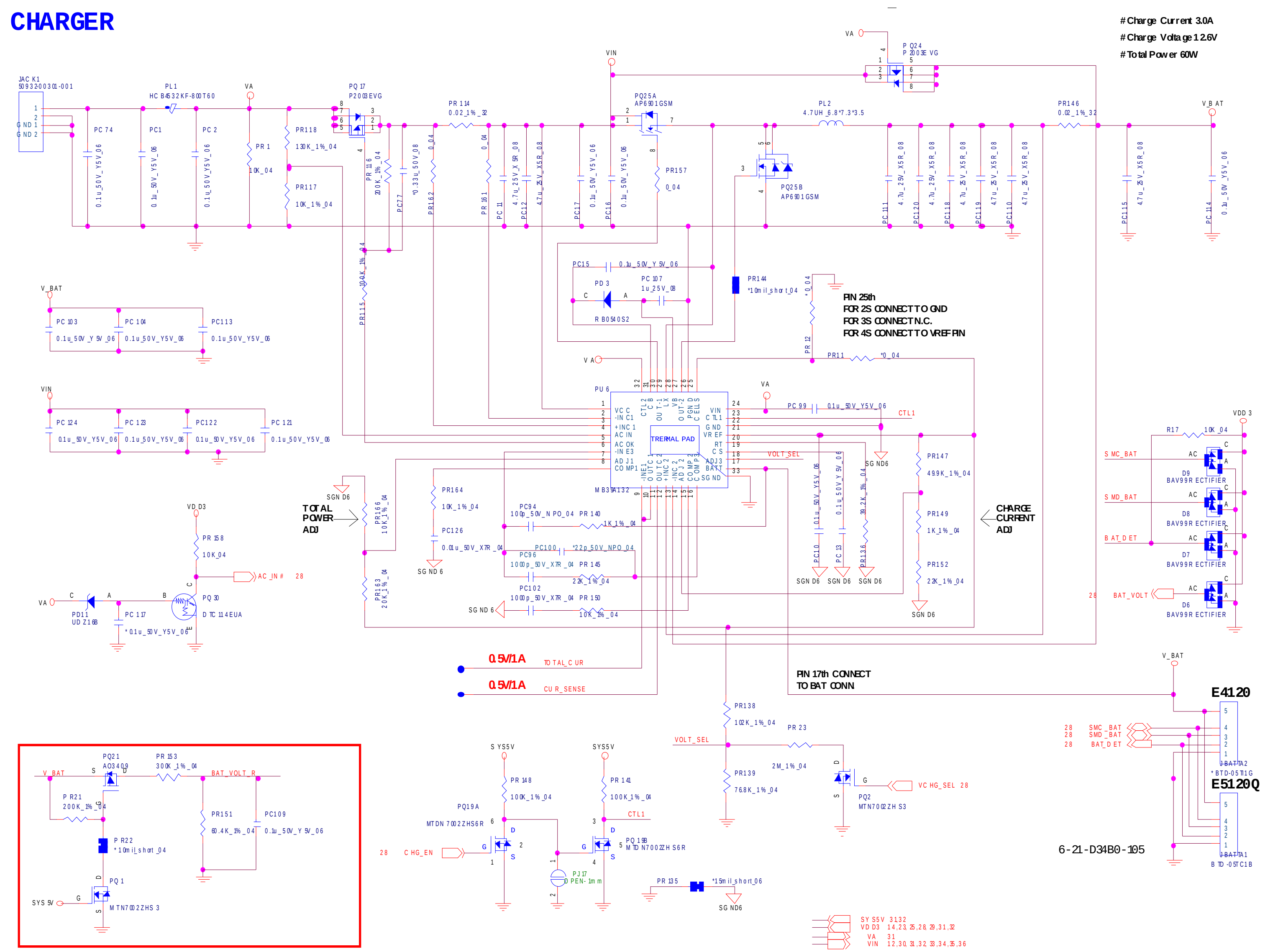


V-Core

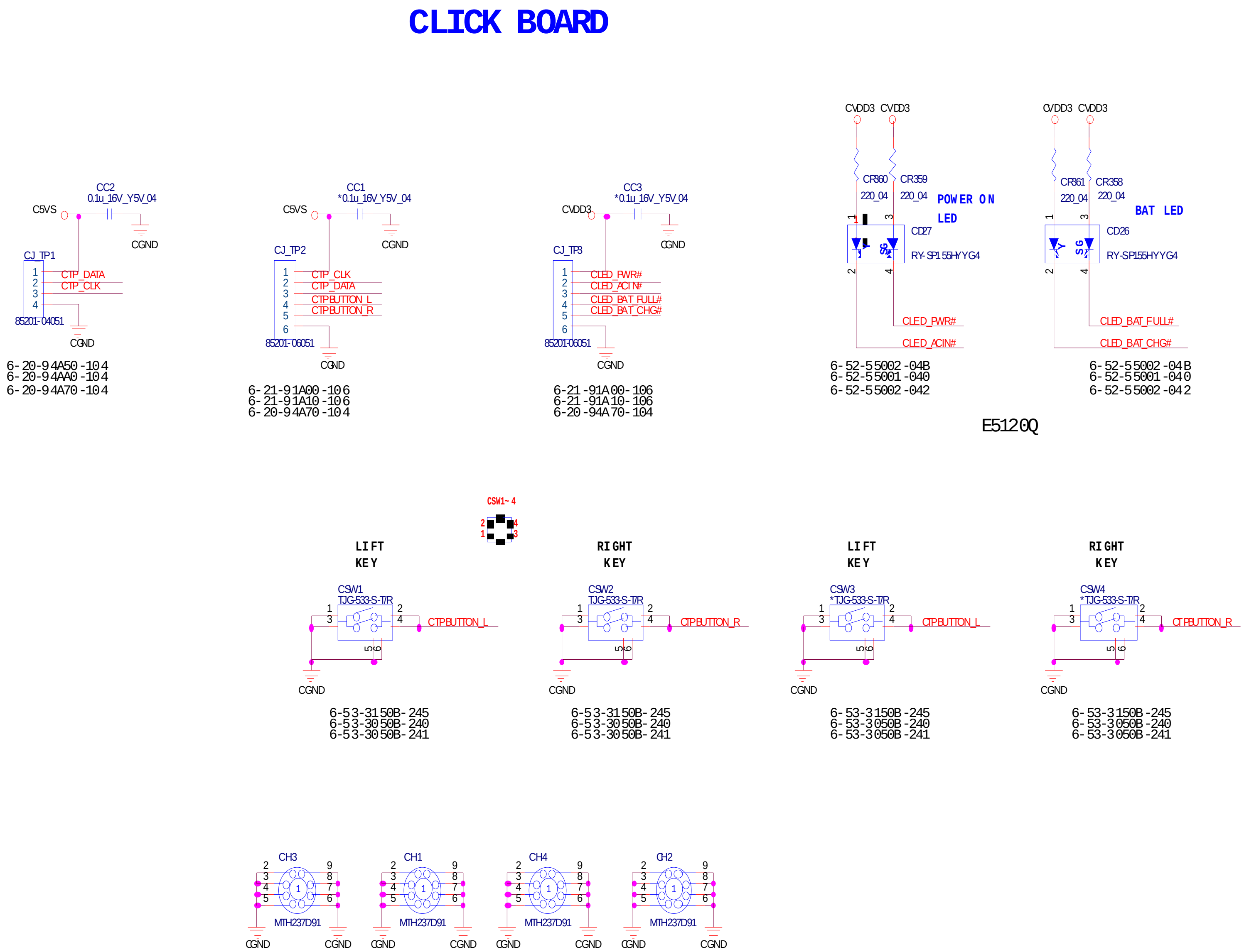


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V-Core

AC_IN, Charger



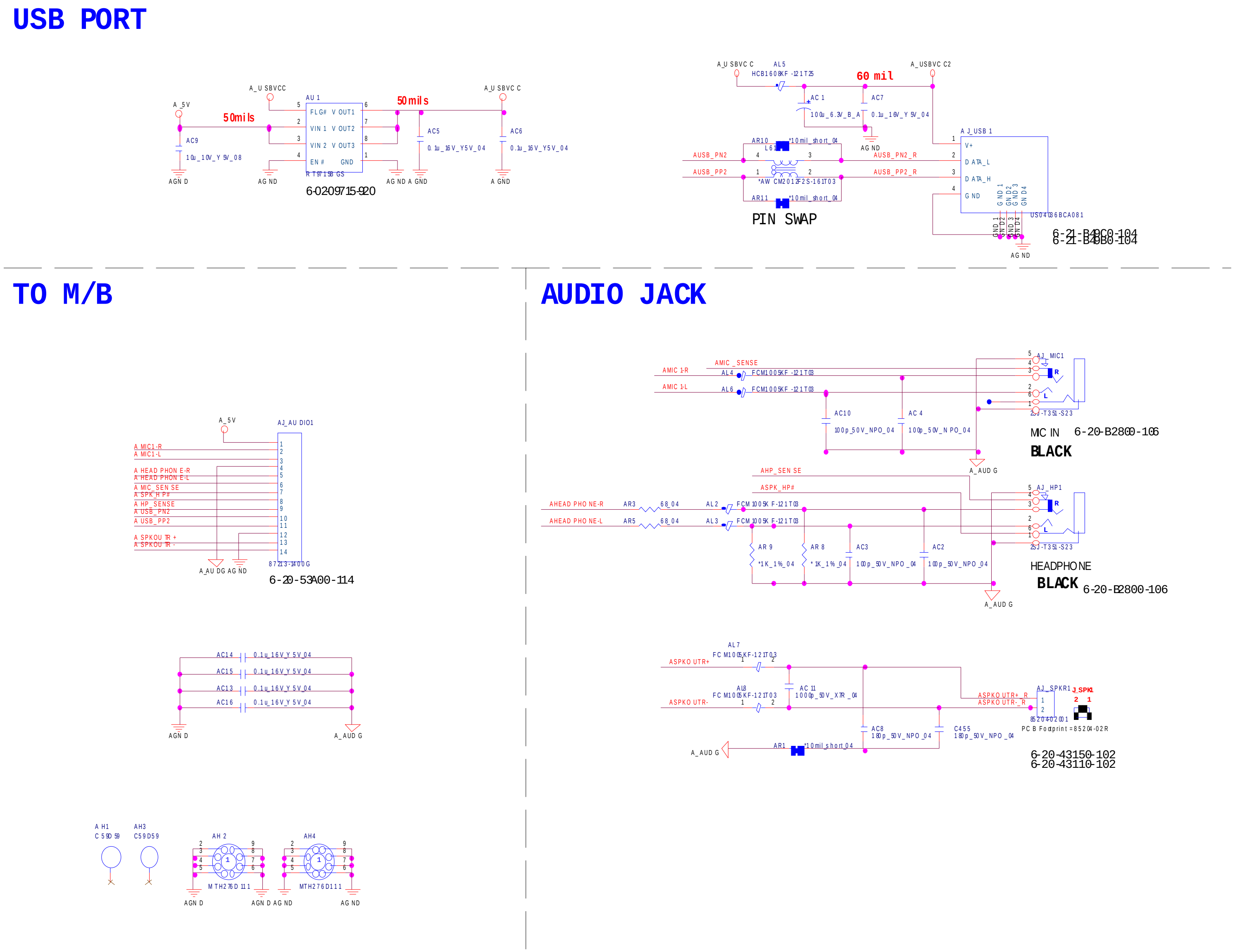
Click Board



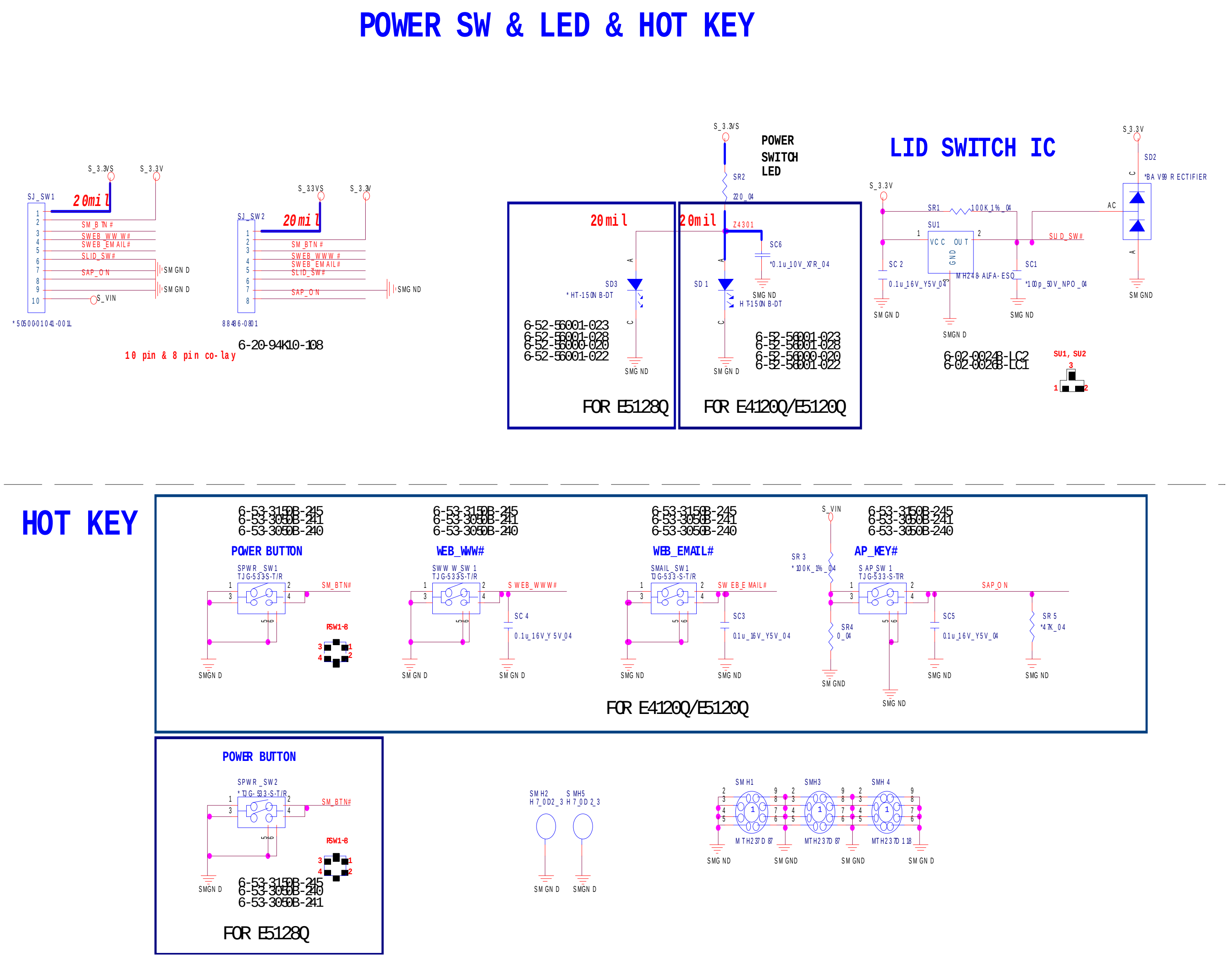
Sheet 38 of 42
Click Board

Audio Board/USB

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Audio Board/USB



Power Switch & LED Board



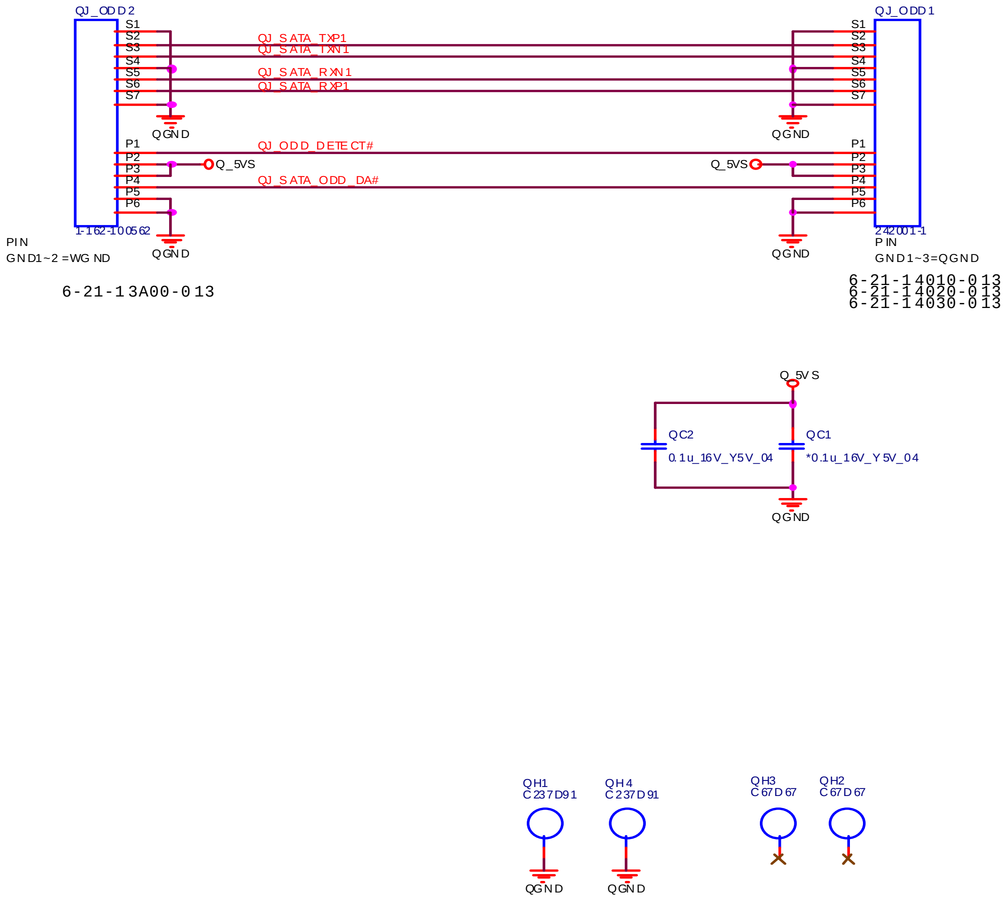
Sheet 40 of 42
Power Switch &
LED Board

B.Schematic Diagrams

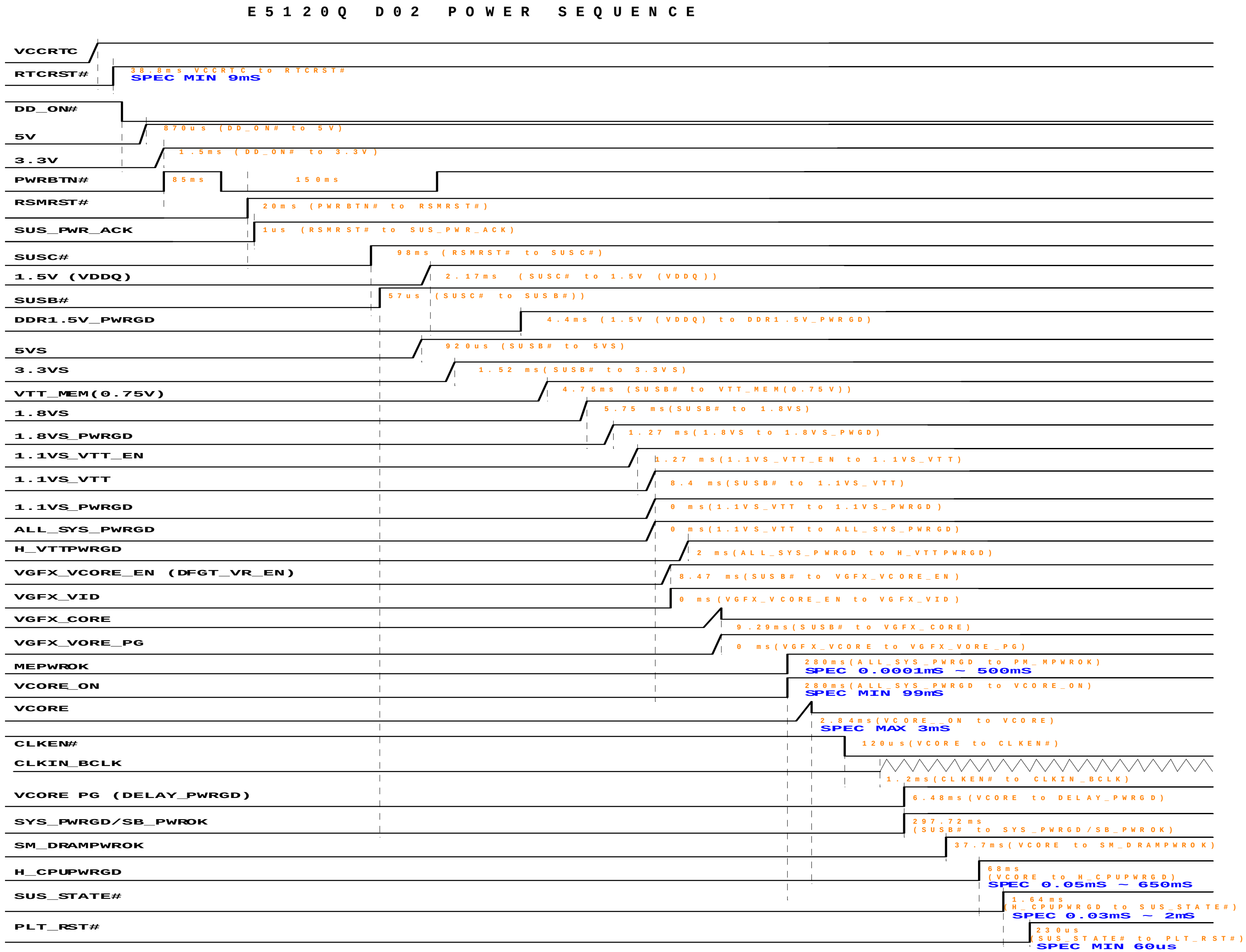
External ODD Board

ODD BOARD FOR E5120Q

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External ODD
Board



Sequence



Sheet 42 of 42
Sequence

Appendix C:Updating the FLASH ROM BIOS

To update the FLASH ROM BIOS you must:

- Download the BIOS update from the web site.
- Unzip the files onto a bootable CD/DVD/USB Flash Drive.
- Reboot your computer from an external CD/DVD/USB Flash Drive.
- Use the flash tools to update the flash BIOS using the commands indicated below.
- Restart the computer booting from the HDD and press **F2** at startup enter the BIOS.
- Load setup defaults from the BIOS and save the default settings and exit the BIOS to restart the computer.
- After rebooting the computer you may restart the computer again and make any required changes to the default BIOS settings.

Download the BIOS

1. Go to **www.clevo.com.tw** and point to **E-Services** and click **E-Channel**.
2. Use your user ID and password to access the appropriate download area (BIOS), and download the latest BIOS files (the BIOS file will be contained in a batch file that may be run directly once unzipped) for your computer model (**see sidebar for important information on BIOS versions**).

Unzip the downloaded files to a bootable CD/DVD/ or USB Flash drive

1. Insert a bootable CD/DVD/USB flash drive into the CD/DVD drive/USB port of the computer containing the downloaded files.
2. Use a tool such as Winzip or Winrar to unzip all the BIOS files and refresh tools to your bootable CD/DVD/USB flash drive (you may need to create a bootable CD/DVD with the files using a 3rd party software).

Set the computer to boot from the external drive

1. With the bootable CD/DVD/USB flash drive containing the BIOS files in your CD/DVD drive/USB port, restart the computer and press **F2** (in most cases) to enter the BIOS.
2. Use the arrow keys to highlight the **Boot** menu.
3. Use the “**+**” and “**-**” keys to move boot devices up and down the priority order.
4. Make sure that the CD/DVD drive/USB flash drive is set first in the boot priority of the BIOS.
5. Press **F10** to save any changes you have made and exit the BIOS to restart the computer.

BIOS Version

Make sure you download the latest correct version of the BIOS appropriate for the computer model you are working on.

You should only download BIOS versions that are V1.01.XX or higher as appropriate for your computer model.

Note that BIOS versions are not backward compatible and therefore **you may not downgrade your BIOS to an older version** after upgrading to a later version (e.g if you upgrade a BIOS to ver 1.01.05, you **MAY NOT** then go back and flash the BIOS to ver 1.01.04).

Use the flash tools to update the BIOS

1. Make sure you are not loading any memory management programs such as HIMEM by holding the **F8** key as you see the message “**Starting MS-DOS**”. You will then be prompted to give “**Y**” or “**N**” responses to the programs being loaded by DOS. Choose “N” for any memory management programs.
2. You should now be at the DOS prompt e.g: DISK **C**:\> (C is the designated drive letter for the CD/DVD drive/USB flash drive).
3. **Type the following command** at the DOS prompt:

   C:\> Flash.bat

4. The utility will then proceed to flash the BIOS.
5. You should then be prompted to press any key to restart the system or turn the power off, and then on again but make sure you remove the CD/DVD/USB flash drive from the CD/DVD drive/USB port before the computer restarts.

Restart the computer (booting from the HDD)

1. With the CD/DVD/USB flash drive removed from the CD/DVD drive/USB port the computer should restart from the HDD.
2. Press **F2** as the computer restarts to enter the BIOS.
3. Use the arrow keys to highlight the **Exit** menu.
4. Select **Load Setup Defaults** (or press **F9**) and select “**Yes**” to confirm the selection.
5. Press **F10** to save any changes you have made and exit the BIOS to restart the computer.

Your computer is now running normally with the updated BIOS

You may now enter the BIOS and make any changes you require to the default settings.